UNHEALTHY AGEING OF IMMIGRANTS: CURRENT UNDERSTANDING AND FUTURE DIRECTIONS

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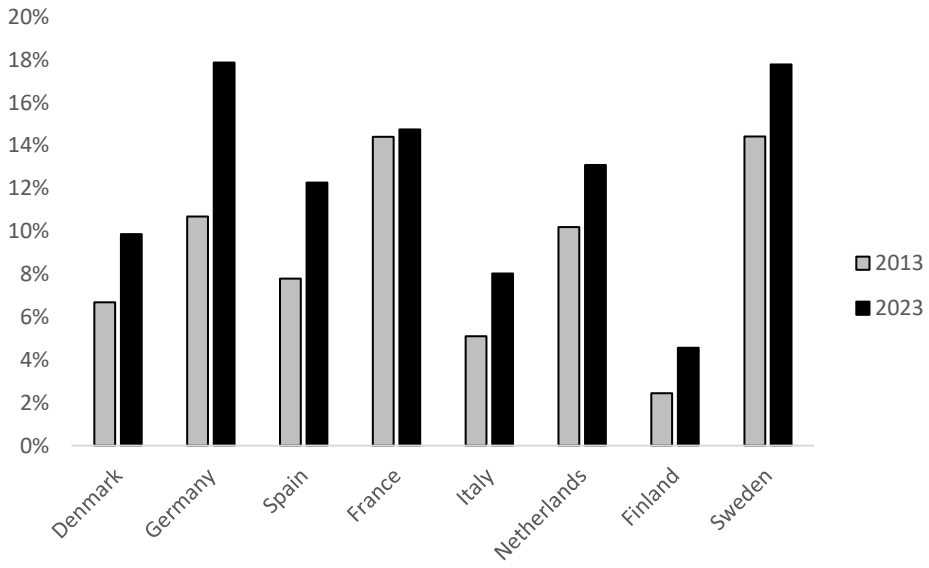
Abstract. Migration and population ageing have been two primary drivers of demographic change in Europe over the past few decades. While immigrant populations in Europe remain relatively young compared to non-immigrant populations, they are ageing, particularly in countries with a longer history of immigration. The ageing process exposes immigrants to greater health risks associated with frailty, highlighting the urgent need to understand the individual, structural, and systemic determinants that may place immigrants on a different health trajectory than non-immigrants. Addressing this challenge is crucial to improving the quality of life and health outcomes for ageing immigrants, and ensuring that they receive the necessary care and resources to manage and mitigate the impacts of population ageing on their frailty and health. This paper explores the current understanding of the unhealthy ageing of immigrants, shedding light on their increasing frailty over the life course, and offers insights into future research directions in the field.

1. Introduction and background

According to Eurostat data, the foreign-born population aged 50+ living in Europe has increased significantly in the last decade, albeit with some differences across countries. Figure 1 shows the proportions of individuals born abroad in selected European countries in the years 2013 and 2023. Overall, in all of the considered countries – Denmark, Germany, Spain, France, Italy, the Netherlands, Finland, and Sweden – the proportion of individuals born abroad increased between 2013 and 2023. In Denmark, Spain, Italy, the Netherlands, Finland, and Sweden, the proportion of the population born abroad increased by between three and four percentage points. In France, the increase was considerably smaller, at around one percentage point, while in Germany, it was significantly larger, at seven percentage points, with the proportion rising from 11% in 2013 to 18% in 2023.

Figure 1 – *Proportion of foreign-born individuals aged 50+ over the total population of the same age in selected European countries. 2013-2023.*



Source: Author's elaboration based on Eurostat data. Population on 1 January of each corresponding year.

Over the same period, the share of the foreign-born population aged 50+ increased more than the share of the foreign-born population aged 65+ across most of the studied countries (see Figure 2 in the Appendix). Germany was an exception, with the share of the population born abroad aged 65+ being notably higher, rising 11 percentage points from 7% in 2013 to 18% in 2023. The smaller increases in the foreign-born population aged 65+ observed in the other countries may indicate lower baseline values, fewer newly arrived older immigrants, or younger immigrant demographic profiles. Nevertheless, there is clear evidence of the presence of an ageing immigrant population across the studied countries. This demographic trend towards an increasing share of foreign-born older individuals in the population can be attributed to at least two different factors: the ageing process of immigrants who arrived in past decades, and more recent immigrants arriving at older ages.

These differences highlight the heterogeneous patterns of the ageing process of the foreign-born population across European countries. It is important to note that these figures are based on a rather broad categorisation of immigration linked to the

place of birth, which can include not only individuals with a migration background who were born in their country of origin, but also individuals who were born abroad due to particular circumstances at the time of their birth, but whose family does not have a migration background. For instance, some foreign-born individuals are the children of native-born nationals who were living abroad for a limited time only, gave birth in a foreign country, and returned to their country of origin with their children. However, albeit imperfect, these figures are consistent with the evidence of an ongoing ageing process among immigrants reported in the literature (Ciobanu et al. 2020).

As immigrant populations grow older, the question of whether they are at greater risk of frailty and heightened health vulnerability may be raised. At the individual level, chronic and functional health as well as cognitive functions decline with age, leading to a general increase in physical and psychological vulnerability (Deary et al. 2009; Salthouse 2009). However, the age profiles of poor health can develop very differently depending on the context (Kowal et al. 2012), e.g., the place of birth, which is an indicator of migration background.

Immigrants are a socially vulnerable population due to several socio-economic and health-related factors (De Jong and Madamba 2001). As immigrants age in their receiving countries, they may have diverse health needs and face specific challenges due to their cultural backgrounds and previous experiences with different healthcare systems (Razum and Spallek 2014). Language barriers (Kreps and Sparks 2008) and the long-term consequences of adversities experienced during their life course (Leopold, Leopold, and Lechner 2017; Loi, Li, and Myrskylä 2024) can also contribute to these challenges. This is particularly likely to be the case for immigrants who are from poorer socio-economic areas or have fled conflicts or political instability. These challenges can make it more difficult for immigrants to access timely and adequate medical care.

Immigrants are also more socio-economically vulnerable than their non-immigrant counterparts. For instance, they are more likely to be employed in low-income jobs and to experience job insecurity and poor working conditions (Orrenius and Zavodny 2013). Thus, immigrants may have higher levels of stress, which are linked to poorer health (Hämmig and Bauer 2013; Burgard and Lin 2013). Additionally, social isolation, discrimination, and limited social support networks may exacerbate immigrants' social vulnerability, especially among those who have recently arrived (Puyat 2013).

However, despite these social and economic vulnerabilities, there is considerable evidence that, paradoxically, on average immigrants tend to have exceptionally high levels of health, often better than those of the local population (Jasso and Massey 2004; Ichou and Wallace 2019; Loi and Hale 2019). One of the strongest explanations for why this might be the case is related to the complex selection

mechanisms associated with the migration process. However, these selection effects do not last indefinitely. Indeed, this immigrant health advantage tends to erode or even vanish as the duration of stay in the receiving country increases, resulting in the health status of immigrants converging with that of non-immigrants (Loi and Hale 2019; Antecol and Bedard 2006). There are several interconnected mechanisms driving this health convergence, including acculturation, negative assimilation, and prolonged exposure to poor socio-economic conditions (Lechner and Mielck 1998; Palloni and Arias 2004; Ronellenfitsch and Razum 2004).

A question in immigrant health research that requires further investigation is how the health profiles of immigrants develop over the life course after they converge with those of the non-immigrant population. Moreover, a deeper understanding of the factors that drive this change is needed. There is evidence of a crossover of the health trajectories of immigrants and non-immigrants, which underlines a more rapid ageing process among the immigrant population (Loi and Hale 2019; Loi, Li, and Myrskylä 2024; 2025). Recently, more attention has been paid to structural factors and their interplay with individual-level characteristics in an effort to explain how both exposures at the individual level and the social structures in which individuals are embedded contribute to the dynamics of immigrant health (Loi, Li, and Myrskylä 2024; 2025).

In this context, some of the most pressing scientific and societal questions that arise include the following: Are immigrants ageing in good health? Are they able to preserve their initial health capital over their life course in the receiving country? If not, what are the main drivers of the changes in immigrants' health over the life course, and what are the mechanisms behind immigrants' unhealthy ageing? Is there an interplay between individual-level determinants and structural factors that relate to the inequities in the distribution of resources?

2. Theoretical framework

The complex questions raised so far would suggest the need for a unified theoretical framework to address immigrant health. However, a framework for studying the deterioration of immigrants' health has yet to be developed. Useful tools that are well known in the demographic, population health, and socio-epidemiological literature include the life course approach (Kuh et al. 2013; Elder and Kirkpatrick Johnson 2003; Elder 1975) and the intersectional perspective (Crenshaw 1989; Hämmig and Bauer 2013; Bauer 2014; Kapilashrami and Hankivsky 2018; Bauer et al. 2021). The life course perspective is at the core of the most recent approaches to studying the socio-economic determinants of health, and the intersectional perspective is increasingly used to frame research on health

inequalities. Why are these two significant theoretical frameworks relevant to the study of immigrants' health deterioration?

Taking a life course perspective is essential in migration studies (Jürgen Flöthmann 1993; Wingens et al. 2011), particularly when addressing the interplay of migration and health (Spallek, Zeeb, and Razum 2011). The life course approach provides a comprehensive framework for understanding how various stages of individuals' lives interact with their migration experiences to influence their health outcomes. This perspective emphasises the importance of considering the timing and sequence of life events, including, whenever possible, pre-migration conditions, the migration process itself, and post-migration experiences. By examining the cumulative effects of these experiences over time (DiPrete and Eirich 2006), researchers can better understand the long-term consequences of immigrants' life histories for their health trajectories. This approach also highlights critical periods, such as childhood or early adulthood, when migration might have particularly significant impacts on health. Additionally, the life course perspective can shed light on how structural factors, such as socio-economic status, access to healthcare, and social support, change and interact with individual health behaviours across the lifespan.

Intersectionality is a framework for understanding how various social identities, such as race, gender, class, sexuality, and disability, intersect and interact to create unique experiences of oppression and privilege. The intersectional framework was first introduced by legal scholar Kimberlé Crenshaw in the late 1980s (Crenshaw 1989). Intersectionality aims to reveal how social positions interact at the individual level to reflect interlocking systems of power at the structural and systemic levels (Crenshaw 1989; Bauer 2014; Bauer et al. 2021). This framework emphasises that individual experiences of discrimination and marginalisation cannot be fully understood by examining each identity and social position in isolation. For example, the experiences of Black women in the United States cannot be fully understood by examining race and gender separately; rather, the interconnected nature of these identities shapes their specific challenges and opportunities (Crenshaw 1989). This framework is crucial for recognising and addressing the complex and cumulative impacts of systemic inequality, and for developing more inclusive and effective policies and practices.

In migration studies, and especially in immigrant health research, the intersectionality framework allows researchers to consider how several social identities and power structures intersect to shape the experiences and health outcomes of immigrants. This approach recognises that individual-level factors, such as migration background, gender, socio-economic status, age, and legal status, interact in complex ways, reflecting the disparities in the opportunities available to immigrants and non-immigrants at the societal and the structural level (Bauer 2014).

By taking these intersecting identities into account, researchers can uncover the layered and compounded forms of discrimination and disadvantage that immigrants may face, which are often masked in analyses that focus on a single axis of identity.

The complex interplay of these factors creates a multidimensional system of disadvantage that contributes to health inequalities across populations. Moreover, in immigrant health research, particular attention should be paid to the intersection of complex social identities with life course events, as experiencing different sets of critical life events over the life course may disproportionately harm immigrants, who are already at higher risk of poor health due to their social frailty and vulnerability (Loi, Li, and Myrskylä 2024).

3. Previous evidence in the literature and descriptive insights

Despite being a vulnerable and socio-economically frail population, immigrants' health status, especially shortly after their arrival, tends to be much higher than that of the local population, which points to an interesting epidemiological paradox (Jasso and Massey 2004). The evidence indicates that, on average, immigrants have better health profiles than non-immigrants – e.g., a reduced risk of developing chronic conditions, a lower likelihood of having physical limitations, better self-rated health (Caselli, Loi, and Strozza 2017; Loi and Hale 2019), and lower mortality (Caselli, Loi, and Strozza 2017) – across a wide range of socio-cultural contexts, including the US, Canada, Australia, and Europe (Trovato 2017). The main hypothesis used to explain this paradoxical evidence is that of the healthy immigrant effect, which posits that, on average, it is the healthiest and strongest individuals who successfully engage in the migration process, while the most frail individuals are left behind (Jasso and Massey 2004).

However, it has also been observed that this immigrant health advantage tends to erode relatively quickly, and largely disappears within approximately 10 years of arrival (Loi and Hale 2019). Due to this rapid erosion of their health status, immigrants are at risk of ageing in poorer health than non-immigrants. Research for Europe shows that immigrants' health status declines more rapidly at older ages than that of non-immigrants (Jang et al. 2023; Loi, Li, and Myrskylä 2024; 2025). Studies also indicate that older immigrants have higher rates of depression poorer self-rated health, and more chronic conditions compared to their non-immigrant counterparts (Aichberger et al. 2010; Reus-Pons et al. 2018; Jang et al. 2023; Loi, Li, and Myrskylä 2024; 2025).

Table 1 shows the percentage distribution of individuals aged 50+ with poor self-rated health, chronic conditions, limitations, and poor mental health across

participating states[1] for the years 2004-2022 based on SHARE data. Self-rated health is assessed by asking: "Would you say your health is excellent, very good, good, fair, poor?" Self-rated health is recoded such that poor health equals fair and poor. Chronic illness is measured by asking: "Some people suffer from chronic or long-term health problems. By chronic or long-term we mean it has troubled you over a period of time or is likely to affect you over a period of time. Do you have any such health problems, illness, disability or infirmity? Yes or no?" Limitations are assessed by asking: "For the past six months at least, to what extent have you been limited because of a health problem in activities people usually do? Severely limited, limited or not limited?" Limitations are recoded such that severely limited or limited means that the individual has at least one limitation. Self-rated mental health is measured by asking: "In the last month, have you been sad or depressed? Yes or no?" Immigration background is based on the question: "Were you born in (country of residence where the interview took place)? Yes or no?" No means that the respondent is an immigrant, while yes indicates that the respondent is not an immigrant.

Despite the healthy immigrant effect, when we look at the older immigrant population (aged 50+) we see that these individuals face significant challenges in preserving the health advantage observed among younger and recently arrived immigrants (Table 1). It is evident that older immigrants have a health disadvantage, and that this disadvantage is particularly pronounced among immigrant women. Indeed, among women, the prevalence of poor self-reported health is roughly 10 percentage points (+/- 2 points) higher for immigrants than for non-immigrants, irrespective of age.

Among men, the differential between immigrants and non-immigrants tends to be smaller, though it increases with age, and reaches a similar value of roughly 10 percentage points above age 70. The disadvantage for the older immigrant population is consistent across health outcomes, including activity limitations, chronic conditions, and mental health. The more pronounced disadvantage among immigrant women is also observed across outcomes, although it is most notable in self-rated health.

[1] All countries that participate in SHARE are included in the pooled sample. Since wave 1: Austria, Belgium, Switzerland, Germany, Denmark, Spain, France, Greece, Italy, Netherlands, Sweden, Israel; since wave 2: Czech Republic, Ireland, Poland; since wave 4 (wave 3 is excluded from the analysis): Estonia, Hungary, Portugal, Slovenia; since wave 5: Luxemburg; since wave 6: Croatia; since wave 7: Bulgaria, Cyprus, Finland, Latvia, Lithuania, Malta, Romania, Slovakia. See https://share-eric.eu/data/data-documentation/waves-overview

Table 1 - *Proportion of individuals reporting poor self-rated health, chronic conditions, limitations, and poor mental health. European countries included in SHARE data, population aged 50+ by migration background and sex.*

		Women		Men	
	Age	**Immigrant**	**Non-immigrant**	**Immigrant**	**Non-immigrant**
Poor self-rated health	50-54	34.4%	24.4%	27.2%	23.3%
	55-59	38.2%	29.6%	33.9%	28.6%
	60-64	41.8%	32.0%	40.8%	31.8%
	65-69	46.2%	36.7%	40.9%	33.7%
	70-74	56.2%	44.9%	47.7%	40.6%
	75-79	63.8%	53.6%	56.0%	47.4%
	80+	70.8%	62.3%	64.6%	55.7%
Chronic conditions	50-54	45.2%	38.9%	40.5%	37.6%
	55-59	49.4%	42.6%	45.8%	44.0%
	60-64	55.6%	53.9%	48.9%	48.3%
	65-69	59.2%	54.7%	53.4%	50.5%
	70-74	64.6%	60.6%	58.8%	55.0%
	75-79	72.1%	64.2%	63.7%	59.3%
	80+	73.8%	71.2%	67.5%	63.1%
Limitations	50-54	39.8%	33.3%	32.1%	30.1%
	55-59	42.9%	38.3%	36.0%	35.7%
	60-64	48.0%	41.1%	42.2%	39.8%
	65-69	51.3%	45.8%	43.7%	41.9%
	70-74	58.0%	52.8%	51.6%	47.8%
	75-79	67.7%	61.4%	59.2%	54.0%
	80+	76.2%	72.6%	70.6%	65.0%
Mental health	50-54	52.6%	45.6%	37.8%	33.2%
	55-59	52.8%	46.5%	38.6%	32.3%
	60-64	50.5%	44.9%	36.0%	30.0%
	65-69	51.8%	46.6%	32.8%	28.8%
	70-74	55.6%	48.5%	34.9%	30.3%
	75-79	55.2%	51.7%	37.3%	32.7%
	80+	60.0%	53.8%	41.4%	37.0%

Data source: SHARE waves 1-9 (pooled, excluding wave 3; wave 3 focused on people's life histories (SHARELIFE) and collected very different information than the regular waves).

The literature has identified several hypotheses explaining these health disparities between older immigrants and non-immigrants (Monserud 2019): the ageing-as-leveller hypothesis, which posits that health inequalities decrease at older ages due to the general worsening of health across all social groups; the persistent inequality hypothesis, which suggests that inequalities remain constant throughout life regardless of age; and the cumulative disadvantage hypothesis, which argues that socio-economic disadvantages accumulate over the life course, exacerbating health inequalities between immigrants and non-immigrants in later life.

Evidence for the cumulative disadvantage hypothesis has been found (Brown 2018; Loi, Li, and Myrskylä 2024). It has, for example, been observed that despite benefiting from a clear health advantage at younger ages, immigrants age in poorer health across societal contexts, and along a variety of health dimensions, including self-reported general health, disability, chronic morbidity and physical functioning (Jang et al. 2023; Loi, Li, and Myrskylä 2024; 2025).

The health of immigrants is influenced by a series of interconnected factors. Age at migration can contribute significantly to health outcomes, as younger migrants may adapt to environmental changes better than older migrants (Gubernskaya 2015). The length of stay in the receiving country can also impact health status, with longer durations associated with more rapid health deterioration (Loi and Hale 2019; Wallace, Khlat, and Guillot 2019). The country of origin and place of birth can reflect differing disease prevalence and health practices (Jang et al. 2024). The immigrant generation can also impact health, with first-generation immigrants benefiting from a strong healthy immigrant effect, compared to subsequent generations (Loi et al. 2021).

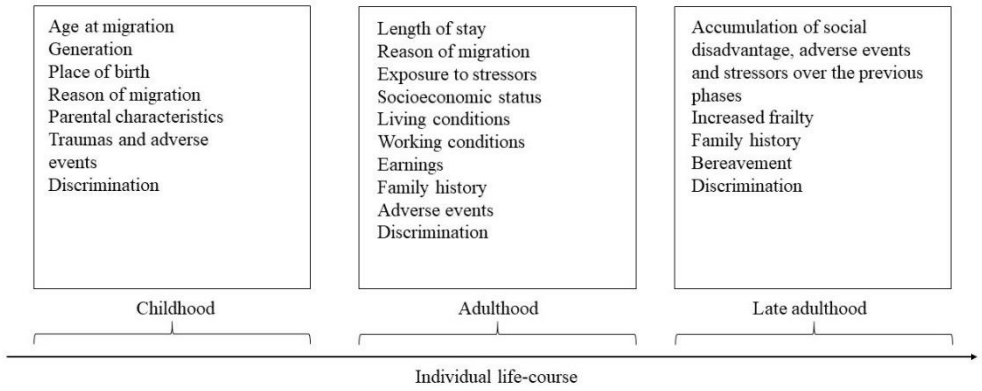
The reason for migration is another crucial determinant. For instance, refugees may have experienced trauma prior to immigration, which could adversely affect their mental health. Moreover, refugees are often exposed to stressors such as uncertainty about their legal situation and the length of their residence permit, which can worsen their health outcomes, especially those related to mental health (Ellis et al. 2019; Vono de Vilhena and Loi 2020).

Discrimination is another significant determinant, with racism and xenophobia contributing to anxiety and depression (Williams et al. 2019). Barriers to using the host country's health systems, such as language and cultural obstacles, can limit immigrants' access to care, and thus negatively affect their health (Terui 2017). In addition to individual characteristics and circumstances, events and experiences, especially adversities over the life course may have a differential impact on the health of immigrants and non-immigrants.

Indeed, immigrants are at higher risk of experiencing multiple adverse events over the life course. For instance, immigrants are more likely to have left family members behind in their origin countries, including very close family members, such

as spouses, children, and parents. In addition, immigrants are at higher risk of losing their job, face increased barriers to re-employment after losing their job, and are more likely to face discrimination. While such experiences can have negative effects on the health of individuals in the general population, they appear to be especially harmful to immigrants' health (Leopold, Leopold, and Lechner 2017; Loi, Li, and Myrskylä 2024). The cumulative effect of these adversities and stressors can lead to increased frailty and accelerated health decline at older ages. Moreover, pre-migration experiences, including exposure to traumatic events and adversities, can have long-lasting effects on immigrants' physical and mental health (Sangalang et al. 2019).

Figure 2 – *Major determinants of immigrant health over the life course.*



Source: Author's elaboration

4. Future research directions

Future research on frailty as both a cause and a consequence of accelerated health decline in immigrants must adopt a comprehensive life course approach, incorporating an intersectional lens to adequately address the complexity of the interplay of the individual-level and structural-level determinants of immigrant health. The life course approach emphasises the significance of several life stages and transitions, recognising that health outcomes are shaped by cumulative experiences and exposures over time (Jones et al. 2019). For immigrants, this means considering the health impacts of pre-migration conditions, migration journeys, and post-migration environments.

An intersectional framework is essential to understanding how these intersecting identities influence health disparities within immigrant populations. For instance, a young woman fleeing conflict as a refugee may face different health challenges and vulnerabilities than an older man who voluntarily migrates for employment opportunities. The intersectionality approach helps to uncover these nuanced differences and the compounded effects of various forms of discrimination and disadvantage. Taking a life course approach – while simultaneously considering the interplay of multiple intersecting identities, such as age, gender, socio-economic status, and country of origin – is essential when conducting immigrant health research.

To advance this field of study, there is a pressing need for high-quality longitudinal data that can capture health changes over time as a consequence of life events and circumstances specific to immigrants. Such data should track individuals from their pre-migration context through their migration journey and into their settlement in the host country. Longitudinal studies provide valuable insights into how specific events, such as traumatic experiences during migration or the stress of adapting to a new culture, contribute to frailty and health decline.

Moreover, large datasets with significant sample sizes are crucial to account for the heterogeneity within immigrant populations. Diverse samples are necessary to differentiate between various subgroups, considering factors such as age, sex, country of origin, reason for migration (e.g., voluntary vs forced migration), and socio-economic conditions. By studying samples reflecting a wide range of experiences, researchers can identify patterns and trends that might be obscured in smaller, less diverse samples.

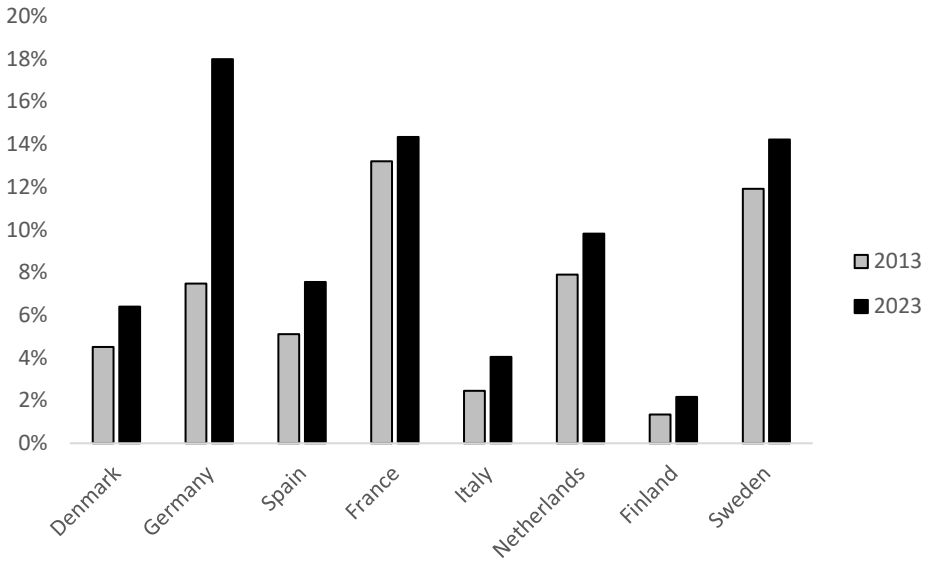
Such comprehensive and detailed data collection would enable researchers to develop more targeted and effective interventions. Understanding the specific health needs and vulnerabilities of different immigrant subgroups can inform policies and programs aimed at preventing frailty and mitigating health decline. For example, tailored healthcare services that address the unique challenges faced by refugee populations or culturally sensitive health promotion programs that consider the backgrounds of various immigrant groups could significantly improve health outcomes.

The European Research Council (ERC) funded project titled “Immigrant-native health disparities: an intersectional approach” seeks to fill this knowledge gap by combining the life course approach and the intersectional perspective to uncover the complex mechanisms behind the unhealthy ageing of immigrants, and to disentangle the differences between the least and the most vulnerable groups. This project will improve our understanding of how structural factors intersect at the micro level to reflect interlocking systems of power at the societal level. Tackling the unresolved puzzle of the causes of the unhealthy ageing of immigrants is crucial, as immigrants

are entering older ages with an increased risk of developing health frailties, and levels of immigration to Europe are likely to rise in response to poverty, conflicts, and the climate crisis. Health disparities between immigrants and non-immigrants will affect a growing segment of the European population, and could become a pressing public health issue.

5. Appendix

Figure 3 - *Proportion of foreign-born individuals aged 65+ over the total population of the same age in selected European countries. 2013-2023.*



Source: Author's elaboration based on Eurostat data. Population on 1 January of each corresponding year.

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