

# Reducing the impact of the coronavirus on disadvantaged migrants and ethnic minorities

Bernadette N. Kumar<sup>1</sup>, Sally Hargreaves<sup>2</sup>, Charles Agyemang<sup>3</sup>, Rosemary A. James<sup>4</sup>, Karl Blanchet<sup>4</sup>, Laurence Gruer<sup>5</sup>

<sup>1</sup> Norwegian Institute of Public Health, Folkehelseinstituttet, Oslo, Norway

<sup>2</sup> Migrant Health Research Group, Institute for Infection and Immunity, St George's University of London, London, UK

<sup>3</sup> Department of Public Health, Amsterdam Public Health Research Institute, Amsterdam University Medical Centers, University of Amsterdam, Amsterdam, The Netherlands

<sup>4</sup> Lancet Migration European Regional Hub, Geneva Centre of Humanitarian Studies, Geneva, Switzerland

<sup>5</sup> Usher Institute, University of Edinburgh, Edinburgh, UK

Corresponding author: Bernadette N. Kumar, Norwegian Institute of Public Health, Folkehelseinstituttet, Postboks 222 Skøyen, 0213 Oslo, Norway, Tel: +4799640321, e-mail: [bernadettenirmal.kumar@fhi.no](mailto:bernadettenirmal.kumar@fhi.no)

Studies from several countries have shown that the COVID-19 pandemic has disproportionately affected migrants. Many have numerous risk factors making them vulnerable to infection and poor clinical outcome. Policies to mitigate this effect need to take into account public health principles of inclusion, universal health coverage and the right to health. In addition, the migrant health agenda has been compromised by the suspension of asylum processes and resettlement, border closures, increased deportations and lockdown of camps and excessively restrictive public health measures. International organizations including the World Health Organization and the World Bank have recommended measures to actively counter racism, xenophobia and discrimination by systematically including migrants in the COVID-19 pandemic response. Such recommendations include issuing additional support, targeted communication and reducing barriers to accessing health services and information. Some countries have had specific policies and outreach to migrant groups, including facilitating vaccination. Measures and policies targeting migrants should be evaluated, and good models disseminated widely.

## What do we know?

### *Situational analysis of COVID-19 and disadvantaged migrants and ethnic minorities in Europe*

The COVID-19 pandemic has highlighted numerous health disparities affecting migrants and ethnic minorities in European countries, with current knowledge based mainly on findings from some high-income countries.<sup>1</sup> In countries such as the UK, data are analyzed by ethnic group and it is clear that the impact of the COVID-19 pandemic has been disproportionately severe, including higher rates of cases of infection, hospitalizations and deaths in some groups.<sup>2–4</sup> Studies are ongoing in several other countries such as Denmark, the Netherlands, Norway and Sweden to explore the impact specifically on migrants, including refugees, asylum seekers, undocumented migrants and other disadvantaged groups.<sup>5</sup> These studies have highlighted that migrants specifically, including more precarious migrants, may have numerous risk factors and vulnerabilities for COVID-19 and may have had high rates of infection and adverse clinical outcomes.<sup>1</sup> Relative poverty, crowded living and working circumstances, higher-risk occupations such as healthcare and transport, and fewer opportunities to work from home and access public health messaging, are all thought to have contributed to increased risk.<sup>1</sup> Pre-existing chronic conditions such as type 2 diabetes, hypertension and obesity may all disproportionately potentiate the risk of severe COVID-19 among some ethnic minorities.<sup>1</sup>

Denmark, Norway and Sweden have all seen higher than expected proportions of migrants amongst COVID-19 cases: 42% of all cases (between 24 March and 27 April 2020) in Norway (twice their population share), 26% in Denmark (to 7 Sept 2020) and 32% in Sweden

(to 7 May 2020).<sup>1</sup> In Spain and Italy, studies have suggested migrants/non-nationals may be more likely than nationals to be hospitalized.<sup>6,7</sup> In Sweden, immigrants from a lower- or middle-income country (LMIC) had a higher risk of death from COVID-19, but not other causes of death.<sup>8,9</sup> After adjusting for age, gender, education, income and civil status, male migrants from the Middle East and North Africa had three times higher mortality rate for COVID-19 than the Swedish population. The UK, Netherlands, France and Sweden have reported higher all-cause mortality in migrants in particular from LMICs in 2020 compared with previous years.<sup>1,3</sup> Undocumented migrants, refugees and asylum seekers are particularly vulnerable.<sup>10</sup> Multiple outbreaks have been reported in camps, detention centres and reception centres housing migrants, where overcrowding and lockdowns may have increased their risk of exposure.<sup>5</sup>

As well as potentially negative clinical outcomes, a wide variety of other health and social impacts of the pandemic have been documented. These include the exacerbation of existing inequities in accessing healthcare services,<sup>1,10–12</sup> increased lockdown periods for migrants living in camp and reception/detention settings,<sup>13</sup> and increased job and income losses in migrants working in insecure employment.<sup>14</sup>

Evidence suggests that some at-risk migrant groups in the European countries may have been excluded from the national response. Public health guidance in many countries was not initially tailored to the needs of migrant and ethnic minority groups, and language and cultural barriers may have meant some could not access guidelines and messaging.<sup>10,15</sup> A study in Montreal, Canada found that recent migrants with less fluency in spoken or written French or English had more difficulty accessing local COVID-19 information,<sup>15</sup> and poorer English language skills were linked to

low testing rates in a US and Canadian study.<sup>16,17</sup> In a Danish qualitative study, migrants reported they felt misinformed about government guidance for COVID-19; although written material was translated into 19 languages, it was not properly and effectively disseminated.<sup>18</sup> In a rapid review of communications targeting migrant populations across 47 Council of Europe Member States, no government had produced risk communications on disease prevention targeting people in refugee camps or informal settlements.<sup>14</sup> Only 48% had translated information into at least one foreign language at the start of the pandemic, and information on testing or healthcare entitlements in common migrant languages was only found in 6%.

It has been impossible to follow guidance such as social distancing in overcrowded migrant camps in countries such as Greece<sup>11</sup> and there is evidence that the spread of COVID-19 is facilitated in these settings. One recent study found no mass testing and surveillance in these camps during the first wave in March–April 2020; prolonged lockdowns disproportionate to movement restrictions imposed on the host population; and COVID-19 infection 2.5–3 times higher among refugees and asylum seekers in reception facilities than in the host Greek population.<sup>19</sup>

Recent data suggest lower vaccine uptake rates in the UK among ethnic minority groups more broadly, which will include more recently arrived migrants.<sup>20,21</sup> Migrants have numerous risk factors for under-immunization and may face barriers to vaccination-related information and vaccination services, suggesting specific strategies are needed to target at-risk migrant and ethnic minority groups.<sup>20</sup> Low rates of vaccine uptake combined with a higher risk of severe disease could widen future inequalities.

## What do we need to do?

### *Migrant health policies in the light of COVID-19*

The UN's Sustainable Development Goals agenda of 'Leaving No One Behind' recommends including all migrants in health systems. The Migration Integration Policy Index (MIPEX) scale ranks health systems from 'most favourable', i.e. strong commitment to equal rights and opportunities at the top end, to 'most unfavourable', i.e. those with restrictive integration policies ([mipex.eu/health](http://mipex.eu/health)). Where entitlements to healthcare coverage are adequate, administrative barriers may still hamper exercising these rights. Countries that have difficulty providing adequate health services to national citizens seem reluctant to adapt service delivery to the needs and constraints of migrants and are more likely to adopt a 'one size fits all' approach. Targeted health information, accessible, translated, adapted and responsive services are only observed in a quarter of the 52 MIPEX countries.<sup>22</sup>

Countries' policies have major implications for migrants' health. Inclusive integration policies can lead to better health outcomes but restrictive policies the reverse.<sup>23</sup> It is against this existing backdrop that several organizations including the World Bank, World Health Organization (WHO) and Lancet Migration have recommended measures to actively counter racism, xenophobia and discrimination by systemically including migrants in the COVID-19 pandemic response.<sup>24</sup> Such recommendations include issuing additional support, targeted communication and reducing barriers to accessing health services and information, regardless of status, citizenship, age, ethnicity, sex and gender.<sup>25</sup> Several countries in the European Region acted swiftly to implement migrant-specific measures that aimed to reduce the impact of the virus.<sup>26</sup> However, whether all these measures have been effective and ethical (separation of families, quarantine in confined spaces, etc.) is debatable.<sup>27</sup>

To date, few analyses have considered the impact of COVID-19 policies on migrants.<sup>27</sup> These have been largely biosecurity-driven rather than rooted in the public health principles of inclusion, universal health coverage and the right to health. The migrant health agenda has been compromised by the suspension of asylum

processes and resettlement, border closures, increased deportations and lockdown of camps and excessively restrictive public health measures. WHO Europe has created a tool for assessing the refugee and migrant policy response at the municipal level in the context of COVID-19.<sup>28</sup> Guidance for promoting the health of migrant workers has also been issued.<sup>25</sup> Lancet Migration has published several situational briefs in 2020.<sup>29</sup> Additional support, legal protection, communication measures and COVID-19-specific responses implemented by countries in the European region have been documented by a European Asylum Support Office report from June 2020<sup>26</sup> as well as in other published and grey literature such as news articles, UN press releases and webinars (figure 1).

Countries' policy responses to the calls for action have ranged from greater inclusivity to exclusion and harsher restrictions. At the 'most favourable' end, Portugal was the first country in Europe to grant all immigrants and asylum seekers regularized status, providing access to healthcare and social security.<sup>30</sup> Although some countries in the European region introduced policy responses to COVID-19 specifically targeted at migrants, not all have done so, and not all measures have been adequate. Many countries claim to be considering refugees and asylum-seekers in their plans,<sup>31</sup> but to what extent remains unknown and undocumented. At the other end of the spectrum, the situation for migrants has worsened, as some measures, such as deportation and confinement, violate basic human rights and trust.<sup>27</sup>

Examples of documented policy responses include temporary changes to legal status, the addition of health and social support mechanisms, and targeted communication. Ireland introduced plans in early 2020 to provide financial support for regular and irregular migrant workers and removed the requirement to share data with immigration authorities.<sup>25</sup> Austria created COVID-19 resources in multiple languages including a radio programme, counselling services and a gender-based violence helpline.<sup>25</sup> Portugal offers a similar helpline with interpretation.<sup>32</sup> In an effort to mitigate overcrowding, several countries have set up emergency shelters and quarantine facilities for refugees and banned non-essential visits and activities. Others have reported increased disinfection and availability of personal protective equipment in refugee centres.<sup>26</sup> Mobile health teams have been deployed to facilitate screening and triage at ports of entry.<sup>26</sup> Social support in the form of childcare and food vouchers has also been implemented in some regions.<sup>26,33</sup>

Although many of these measures are in line with global recommendations, additional measures should be put in place. All legal and administrative barriers to care should be removed, deportations halted and spacious hygienic living conditions in camps and outside ensured. Firewalls should be established between healthcare and



**Figure 1** Migration-specific policy measures implemented during the COVID-19 pandemic in Europe

immigration enforcement. It is crucial to make full use of public health systems and perform epidemiological surveillance and outbreak responses in disadvantaged migrant populations to ensure no one is left behind.

Lancet Migration has documented policy responses through situational briefs on a national level.<sup>29</sup> Though local initiatives may not be easily identifiable through literature searches, the need for local action, as well as cross-border collaboration, must be emphasized. To fully understand the policy response on COVID-19 and migration warrants more research based on disaggregated data and qualitative studies, within countries and along migration transit routes.

## Vaccination priorities and strategies

Vaccine rollout strategies should consider disadvantaged migrants and ethnic minorities in all priority categories.<sup>34</sup> Strategies must engage migrant communities and address systemic and social barriers, such as language, transport and discrimination, both within and outside the health sector for an equitable and successful vaccine rollout.<sup>35,36</sup> Belgium, France, Italy, Netherlands and Spain explicitly include migrants, regardless of residence status. In the UK, migrants are eligible to receive vaccines regardless of their status and will not be declared to immigration authorities when they register.<sup>31</sup> In Italy, vaccines will be available to anyone living in the country, regardless of their residence status. Besides inclusive policies, some countries such as Belgium are working on several fronts to ensure better vaccine coverage and combat vaccine hesitancy and misinformation: mobile outreach, communication campaigns and working with NGOs and community mediators. The United Nations High Commissioner for Refugees (UNHCR) is tracking national strategies and has reported that the majority of countries have included refugees and asylum-seekers in their plans. While some countries' vaccination policies explicitly include undocumented migrants, this is far from the rule: only nine EU member states have explicitly mentioned undocumented people in their vaccine strategies.<sup>37</sup>

In April 2021, the Global Society on Migration, Ethnicity, Race and Health COVID-19 Working Group and the European Public Health Association Migrant and ethnic minority section organized a webinar entitled '*COVID-19 Vaccination Uptake among Migrants & Ethnic Minorities: Challenges & Opportunities*.' This brought together leading experts and 460 other participants to discuss what could be done to achieve equitable vaccine accessibility and maximize uptake among migrants and ethnic minorities across the world. The consensus was that initial vaccine uptake was disappointingly low in ethnic minority groups due to mistrust, misinformation, structural barriers to vaccine uptake and other factors. Concerted efforts are needed to promote the uptake of the vaccine in these communities. Despite the available evidence of the disproportionate risk to migrants and ethnic minority groups, the criteria for vaccination in most countries does not reflect this.

## Implications for research, policy and practice

Some European countries (Norway, Sweden and the UK) were able to detect the disproportionately high impact of COVID-19 on ethnic/racial minorities or migrants within a few months of the start of the pandemic.<sup>1,8,12,13,37</sup> This was possible in the UK because ethnic/racial group was already recorded in routine health databases. Most European countries do not systematically record this, limiting their ability to investigate such inequalities in their populations.<sup>38</sup> Some may record the country of birth of the individual or their parents in population registers and can thereby identify migrants or their offspring. Without accurate data, and its integration into health information systems and surveillance, the true impact of COVID-19 on migrants and ethnic groups in Europe will remain largely unknown.

As previous UK studies have shown, anonymous linkage of the census to health and death records provides a powerful means of

exploring the complex relationships between ethnic group, place of birth and health.<sup>39</sup> An expert group in Scotland recently concluded that this type of linkage would provide the most robust and publicly acceptable means of examining the interaction between COVID-19, ethnicity, country of birth and other inter-related factors.<sup>40</sup> Other countries should consider adopting similar methods as well as improve data of migrants within health information systems.<sup>38</sup>

Ongoing international surveys in the MIPEX mode are needed to examine the extent to which different countries are ensuring inclusivity and fairness in COVID-19 control measures, treatment and access to COVID-19 vaccination regardless of migrant status or ethnic group. A key question is whether the greater inclusion of migrants in the health systems of some countries such as Portugal could be replicated in others.

There is an urgent need to conduct qualitative studies and collect uptake data in real-time to better understand the reasons for apparently lower uptake of vaccines among some groups even when they are available, and how uptake can be improved through tailored and targeted campaigns. Research should also be conducted to understand the range of measures in place in migrant and refugee camps and evaluate their effects on the residents.

Given the unpredictable course of the pandemic, minimizing the continuing impact on migrant and ethnic minority populations must be a priority for all European countries. Tailored and targeted strategies to reducing transmission risk in crowded workplaces or living quarters where migrants predominate, such as meat-processing factories and farms, need to be implemented. Access to testing and social support, enabling people in financially precarious circumstances to self-isolate. Authorities need urgently to work with migrant and ethnic minority groups to produce appropriate communications enabling reduced exposure to COVID-19 and increased vaccine uptake. These are essential to tackle misinformation, conspiracy theories and anti-vaccination campaigns. Endorsement by respected leaders and role models from migrant and ethnic minority groups and enabling access to migrant populations via religious institutions or other trusted bodies can all help. The UNHCR and the International Organization for Migration are willing to assist governments in enabling asylum seekers and refugees to undergo testing and quarantine whilst adhering to international refugee protection standards. The European Centre for Disease Control and the European Commission should continue to document and disseminate good practice.

## Conclusions

In Spring 2021, the coronavirus continued to spread rapidly in many European countries, fuelled by more transmissible variants and facilitated by slow vaccine rollouts. The WHO and EU have declared that 'no-one is safe until everyone is safe'. All countries should aim to produce and use data on migrants and ethnic minorities as without such information, serious inequalities will remain undetected and unexplained. Given the large exclusion of migrants and ethnic minorities from national responses, countries must review and consider existing models offering temporary status to all migrants in order to attain full health protection. The most pressing priority is to ensure vaccine equity and maximize uptake in migrant, ethnic minorities and other excluded or hard-to-reach communities as an essential part of their inclusion in National Response Plans. Such measures should not be seen as a quick fix but rather a model for ongoing engagement and integration within a framework of universal health coverage.

*Conflicts of interest:* None declared.

## Additional Content

A video to accompany this paper is available at <https://youtube.com/playlist?list=PLv5eq4ZCoNWubJurAJ-7Ht33cjNshLw7R>.



## References

- 1 Hayward SE, Deal A, Cheng C, et al.; ESCMID Study Group for Infections in Travellers and Migrants (ESGITM). Clinical outcomes and risk factors for COVID-19 among migrant populations in high-income countries: a systematic review. *J Migr Health* 2021;3:100041.
- 2 Office for National Statistics. Coronavirus (COVID-19) related deaths by ethnic group, England and Wales: 2 March 2020 to 15 May 2020 [Internet]. 2020. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/coronaviruscovid19relateddeathsbyethnicgroupenglandandwales/2march2020to15may2020#ethnic-group-breakdown-of-covid-19-deaths-by-age-and-sex>.
- 3 Public Health England. Disparities in the risk and outcomes of COVID-19. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/908434/Disparities\\_in\\_the\\_risk\\_and\\_outcomes\\_of\\_COVID\\_August\\_2020\\_update.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf).
- 4 Greenaway C, Hargreaves S, Barkati S, et al. COVID-19: exposing and addressing health disparities among ethnic minorities and migrants. *J Travel Med* 2020;27:taaa113.
- 5 European Centre for Disease Prevention and Control. Guidance on infection prevention and control of coronavirus disease (COVID-19) in migrant and refugee reception and detention centres in the EU/EEA and the United Kingdom – June 2020 [Internet]. ECDC. Stockholm, 2020. Available at: <https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-guidance-refugee-asylum-seekers-migrants-EU.pdf>.
- 6 Fabiani M, Mateo-Urdiales A, Andrianou X, et al.; COVID-19 Working Group. Epidemiological characteristics of COVID-19 cases in non-Italian nationals notified to the Italian surveillance system. *Eur J Public Health* 2021;31:37–44.
- 7 Norman FF, Crespillo-Andújar C, Pérez-Molina JA, et al. COVID-19 and geographical area of origin. *Clin Microbiol Infect* 2021;27:632.e1–5.
- 8 Drefahl S, Wallace M, Mussino E, et al. A population-based cohort study of socio-demographic risk factors for COVID-19 deaths in Sweden. *Nat Commun* 2020;11:5097.
- 9 Swedish Public Health Agency (Folkhälsomyndigheten). Demografisk Beskrivning av Bekräftade Covid-19 Fall i Sverige 13 Mars–7 maj 2020 [Demographic description of confirmed Covid-19 cases in Sweden from 13 March to 7 May] [Internet]. 2020. Available at: <https://www.folkhalsomyndigheten.se/publicerat-material/publikationsarkiv/d/demografisk-beskrivning-av-bekraftade-covid-19-fall-i-sverige-13-mars-7-maj-2020/#:~:text=E-utbildningar-,Demografisk beskrivning av bekräftade covid-19 fall i,13 mars-7 maj 2020&>.
- 10 Knights F, Carter J, Deal A, et al. Impact of COVID-19 on migrants' access to primary care and implications for vaccine roll-out: a national qualitative study. *Br J Gen Pract* 2021;71:e583–95.
- 11 Kondilis E, Papamichail D, McCann S, et al. The impact of the COVID-19 pandemic on migrants, refugees and asylum seekers in Greece: a retrospective analysis of national surveillance data from 2020. *EClinicalMedicine* 2021;37:100958.
- 12 Hayward SE, Deal A, Cheng C, et al. Clinical outcomes and risk factors for COVID-19 among migrant populations in high-income countries: a systematic review. *J Migr Health* 2021;3:100041.
- 13 OECD. What is the impact of the COVID-19 pandemic on immigrants and their children? 2020. Available at: <https://www.oecd.org/coronavirus/policy-responses/what-is-the-impact-of-the-covid-19-pandemic-on-immigrants-and-their-children-e7cbb7de/>.
- 14 Maldonado BMN, Collins J, Blundell HJ, Singh L. Engaging the vulnerable: a rapid review of public health communication aimed at migrants during the COVID-19 pandemic in Europe. *J Migr Health* 2020;1:100004.
- 15 Cleveland J, Hanley J, Jaimes A, Wolofsky T. Impacts de la crise de la COVID-19 sur les «communautés culturelles» montréalaises-Enquête sur les facteurs socio-culturels et structurels affectant les groupes vulnérables. Government of Canada, Montreal, Canada, 2020.
- 16 Kim HN, Lan KF, Nkyekyer E, et al. Assessment of disparities in COVID-19 testing and infection across language groups in Seattle, Washington. *JAMA Netw Open* 2020;3:e2021213.
- 17 Guttman A, Gandhi S, Wanigaratne S, et al. *COVID-19 in Immigrants, Refugees and Other Newcomers in Ontario: Characteristics of Those Tested and Those Confirmed Positive, as of June 13, 2020*. Toronto, Canada: ICES, 2020.
- 18 Institut for Menneskerettigheder. Corona rammer skævt – etnicitet og smitte [corona frames double – ethnicity and infection] [Internet]. Copenhagen, Denmark, 2020. Available at: [https://menneskeret.dk/sites/menneskeret.dk/files/media/billeder/udgivelser/ligebehandling\\_2020/rapport\\_corona\\_rammer\\_skaevt.pdf](https://menneskeret.dk/sites/menneskeret.dk/files/media/billeder/udgivelser/ligebehandling_2020/rapport_corona_rammer_skaevt.pdf).
- 19 Hargreaves S, Kumar BN, McKee M, et al. Europe's migrant containment policies threaten the response to Covid-19. *BMJ* 2020;368:m1213.
- 20 Crawshaw AF, Deal A, Rustage K, et al. What must be done to tackle vaccine hesitancy and barriers to COVID-19 vaccination in migrants? *J Travel Med* 2021;28:taab048.
- 21 Office for National Statistics. Coronavirus and vaccination rates in people aged 70 years and over by socio-demographic characteristic, England: 8 December 2020 to 11 March 2021. 2021. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthinequalities/bulletins/coronavirusandvaccinationratesinpeopleaged70yearsandoverbysociodemographiccharacteristicengland/8december2020to11march2021>.
- 22 MIPEX. Migrant policy index [Internet]. 2015. Available at: [www.mipex.eu](http://www.mipex.eu) (19 April 2021, date last accessed).
- 23 Recovering from the COVID-19 pandemic and ensuring health equity — the role of the European Semester. EuroHealthNet [Internet]. 2020. Available at: [https://jahe.iss.it/wp-content/uploads/2020/12/Recovering-from-the-COVID-19-The-role-of-the-European-Semester\\_Report-final.pdf](https://jahe.iss.it/wp-content/uploads/2020/12/Recovering-from-the-COVID-19-The-role-of-the-European-Semester_Report-final.pdf).
- 24 Moroz H, Shrestha M, Testaverde M. *Potential Responses to the COVID-19 Outbreak in Support of Migrant Workers*. World Bank, 2020.
- 25 WHO. *Promoting the Health of Migrant Workers in the WHO European Region during COVID-19. Interim guidance, 6 November 2020*. World Health Organization. Regional Office for Europe, 2020.
- 26 European Asylum Support Office. COVID-19 emergency measures in asylum and reception systems [Internet]. 2020. Available at: <https://www.easo.europa.eu/sites/default/files/covid19-emergency-measures-asylum-reception-systems.pdf>.
- 27 Paul R. Europe's essential workers: migration and pandemic politics in Central and Eastern Europe during COVID-19. *Eur Policy Anal* 2020;6:238–63.
- 28 WHO. *Refugee and Migrant Health in the Context of the COVID-19 Pandemic: Assessment Tool for Response at Municipal Level in the WHO European Region*. World Health Organization. Regional Office for Europe, 2020.
- 29 Lancet Migration. Situational and policy briefs: COVID-19 and migration [Internet]. Available at: [https://migrationhealth.org/project\\_tag/briefs/](https://migrationhealth.org/project_tag/briefs/).
- 30 Barillà SFP, Pellicanò A. The treatment of irregular migrants during COVID-19: a comparative analysis of Italian and Portuguese responses. *KSzPP* 2020;7:123–38.
- 31 Platform for International Cooperation on Undocumented Migrants (PICUM). The COVID-19 vaccines and undocumented migrants: what are European countries doing? 2021. Available at: <https://picum.org/covid-19-vaccines-undocumented-migrants-europe/>.
- 32 European Commission. Portugal: essential COVID-19 and domestic violence information translated into more languages. Available at: <https://ec.europa.eu/migrant-integration/news/portugal-essential-covid-19-and-domestic-violence-information-translated-into-more-languages?lang=fr>.
- 33 Burton-Jeangros C, Duvoisin A, Lachat S, et al. The impact of the Covid-19 pandemic and the lockdown on the health and living conditions of undocumented migrants and migrants undergoing legal status regularization. *Front Public Health* 2020;8:596887.
- 34 Emanuel EJ, Persad G, Kern A, et al. An ethical framework for global vaccine allocation. *Science* 2020;369:1309–12.
- 35 UN Committee on Migrant Workers (CMW). Joint guidance note on equitable access to COVID-19 vaccines for all migrants. Available at: <https://www.ohchr.org/Documents/Issues/Migration/JointGuidanceNoteCOVID-19-Vaccines-for-Migrants.pdf>.
- 36 European Centre for Disease Control. Reducing COVID-19 transmission and strengthening vaccine uptake among migrant populations in the EU/EEA Key messages. ECDC: Stockholm, 2021. Available at: <https://www.ecdc.europa.eu/en/publications-data/covid-19-migrants-reducing-transmission-and-strengthening-vaccine-uptake#no-link>.
- 37 Office for National Statistics. Updating ethnic contrasts in deaths involving the coronavirus (COVID-19), England and Wales: deaths occurring 2 March to 28 July 2020. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/birth>

- sdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthe  
coronaviruscovid19englandandwales/deathsoccurring2marchto28july2020
- 38 Bozorgmehr K, Biddle L, Rohleder S, et al. What is the evidence on availability and integration of refugee and migrant health data in health information systems in the WHO European region? Health Evidence Network synthesis report, No. 66 WHO 2019.
- 39 Gruer LD, Cézard GI, Wallace LA, et al. Complex differences in infection rates between ethnic groups in Scotland: a retrospective, national census-linked cohort study of 1.65 million cases. *J Public Health* 2020, doi: 10.1093/pubmed/fdaa267.
- 40 Expert Reference Group on COVID-19 and Ethnicity. Initial advice and recommendations on systemic issues. [Internet]. 2020. Available at: <https://www.gov.scot/groups/expert-reference-group-on-covid-19-and-ethnicity/>