

**Table S1.** Determinants of under vaccination among migrant populations.

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| Determinants and Characteristics  |
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| <u>Information inequities</u>   |
| <ul style="list-style-type: none"><li>• Limited access to health information leading to inadequate knowledge about vaccinations and vaccine-preventable diseases [6-7].</li><li>• Language barriers and/or low literacy [4,6-8].</li><li>• Vaccine misinformation [3-4,9].</li><li>• Low health literacy [4,9].</li><li>• Information not accessible or not provided in an acceptable format [7].</li><li>• Inadequacy of public health vaccination campaigns targeting migrant groups [10].</li><li>• Confusion related to vaccine eligibility [11].</li></ul> |
| <u>Personal beliefs</u>   |
| <ul style="list-style-type: none"><li>• Low risk perception of vaccine-preventable disease [8].</li><li>• Vaccine-specific hesitancy (e.g. fears of adverse effects, vaccine safety concerns) [1,7, 2].</li><li>• Ethnic, cultural, or religious values [1,6-7,12].</li></ul>   |
| <u>Previous systems experiences</u>   |
| <ul style="list-style-type: none"><li>• Experiences of racism, discrimination, or social exclusion within health systems [1,4,7,9,13].</li><li>• Distrust of the health/medical system and/or government systems [4,6,9].</li><li>• Fear of accessing the healthcare system based on legal status such as undocumented migrants [11,14].</li></ul>  |
| <u>Structural inadequacies</u>  |
| <ul style="list-style-type: none"><li>• Inadequate vaccine delivery coordination by public health authorities [7, 14].</li><li>• Gaps in national policies on migrant/refugee health services and vaccinations [1, 7, 13].</li><li>• Lack of vaccine coverage in the country of origin [14].</li><li>• Barriers or inequities to accessing healthcare in general translate to vaccine access [1,13].</li></ul>  |
| <u>Accessibility of vaccine services</u>  |
| <ul style="list-style-type: none"><li>• Lack of awareness and/or physical access to immunization services [7].</li><li>• Difficulties navigating the healthcare system [1,13].</li><li>• Poor digital literacy and lack of access to technology for booking and accessing information [7].</li><li>• Financial barriers accessing vaccination; including indirect costs such as taking time off work [1,5,7,13].</li></ul>  |
| <u>Intersecting risk factors for undervaccination</u>   |
| <ul style="list-style-type: none"><li>• Level of education [8].</li><li>• Income [1, 13].</li><li>• Family size, birth order of child [7].</li><li>• Age [15].</li><li>• Country/continent of origin [15].</li><li>• Geographic location (e.g., rural/urban) [15].</li><li>• Faith and/or culture [1, 6-7,12].</li><li>• Legal status [14].</li></ul>   |

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