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## Rethinking scabies in Europe: An ECDC prevention framework approach

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To the editor: The convergence of rising migration flows and the often-overlooked burden of scabies presents a significant global public health challenge. While this issue is particularly pronounced in European healthcare systems, its implications extend far beyond, highlighting the need for a coordinated international response [1,2]. Scabies, a common infectious disease among refugees and asylum seekers (morbidity rates 0.3%–5.7 %), can be life-threatening for vulnerable populations (infants, the elderly, and immuno-compromised), due to the risk of severe secondary infections [3]. A recent Hong Kong study of over 500 hospitalized elderly patients found a 7.5 % incidence of scabies-associated bacteremia (higher in crusted than classic scabies), with 28.5 % mortality (from any cause) within 30 days of diagnosis, highlighting the frailty of this patient population [4]. Despite the significant disease burden reported, the true prevalence of scabies remains unclear due to a lack of comprehensive epidemiological data in both migrant and resident populations across various regions [5]. As a result, public health responses are often limited to reactive outbreak management, which is insufficient for addressing the broader, systemic challenges posed by scabies [3].

This reactive approach necessitates a paradigm shift toward proactive and preventative strategies that transcend emergency-driven perspectives. It is time to rethink scabies, not only in Europe but on a global scale. Adapting frameworks such as the ECDC's prevention model offers a concrete roadmap for meaningful action (Table 1) [1]. Such an approach demands recognition of the diagnostic and management biases that stem from the diagnostic pitfalls of scabies, which are often challenging to identify promptly, particularly in vulnerable populations.

A symptom-based diagnostic approach is inherently inadequate, especially in communities residing in close quarters such as reception centers or displaced persons camps. Early infestations often lack the characteristic pruritus, and clinical presentations in vulnerable sub-populations—such as neonates, the elderly, and immunocompromised individuals—are frequently atypical or absent [1]. This underscores the critical need for investments in healthcare worker training to enhance recognition of nuanced presentations, coupled with access to diagnostic testing for ambiguous cases. Such efforts are paramount to achieving early diagnosis, containment of spread, and accurate epidemiological

surveillance [6].

While scabies is often perceived as a benign condition due to its manageable treatment, relatively short isolation period, and favorable prognosis, it poses a significant risk for rapid and extensive transmission in vulnerable settings, including migrant reception centers and other close-contact environments [3,7]. These risks extend beyond migratory contexts, affecting broader public health systems and amplifying the potential for wider dissemination.

A proactive approach that includes preventative therapeutic interventions for newly arrived migrants, particularly those entering reception centers, warrants serious consideration. Strengthening the role of non-physician healthcare workers, as emphasized in Table 1, can significantly enhance early detection and timely intervention. Empowering these workers with diagnostic training and ensuring access to rapid diagnostic tools are critical for managing outbreaks effectively. Additionally, facilitating early treatment through accessible healthcare services can reduce transmission risks while addressing the broader systemic challenges posed by scabies in migrant populations.

Finally, given reported treatment failure rates of 14.4 % and 10.4 % for permethrin and benzyl benzoate, respectively, alternative pharmacological strategies warrant consideration, particularly in settings where barriers like language may hinder proper scabies treatment adherence [4]. Mass drug administration with oral ivermectin has proven successful in controlling scabies in endemic regions and managing outbreaks in closed communities, offering a simplified model for broader implementation [7]. In Dutch asylum centers, screening arriving asylum seekers for scabies and providing ivermectin (preventatively or therapeutically) reduced repeat scabies episodes (from 42.0 % to 27.2 %) and complications (from 12.3 % to 4.6 %), demonstrating the feasibility and effectiveness of early intervention [8]. Moreover, a recent study supports extending ivermectin treatment to younger children (aged 2–4 years), demonstrating its high efficacy and tolerability in treating scabies, thus contributing to global efforts to control this neglected disease [9].

Given its growing epidemiological impact and the current lack of a coordinated response, scabies must be prioritized as a re-emerging global public health concern. Dedicated policies and structured public

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**Table 1**

Challenges to a wider prevention agenda: Applying the ECDC framework to scabies, Europe's most neglected communicable disease, in setting of migrant population.

Challenges for the prevention of communicable diseases <sup>(*)</sup>	Roadmap for developing a new interdisciplinary prevention agenda for migrant populations
<b>Challenge 1:</b> defining, recognizing and identifying with "prevention"	<p><b>To correct:</b></p> <ul style="list-style-type: none"> <li>○ <b>Inaccurate understanding of disease:</b> Perceptions about how scabies is caused, and spread was often incorrect.</li> <li>○ <b>Overemphasis on personal hygiene:</b> Many mistakenly believed that personal hygiene alone could prevent scabies.</li> <li>○ <b>Neglect of contact tracing:</b> Treating close contacts was not seen as a priority.</li> </ul> <p><b>To enhance:</b></p> <ul style="list-style-type: none"> <li>○ <b>Importance of early treatment acknowledged (by some):</b> A portion of migrants understood that early treatment is key to stopping transmission.</li> </ul> <p><b>To reduce:</b></p> <ul style="list-style-type: none"> <li>○ <b>Cost as a barrier to care:</b> Financial constraints influenced whether people sought treatment from traditional healers or health centers.</li> <li>○ <b>Delayed treatment:</b> People often presented late for treatment due to poverty and stigma.</li> <li>○ <b>Negative impact on quality of life:</b> Scabies significantly affected social interactions, overall health, ability to work, and school attendance. <sup>(*)</sup></li> </ul>
<b>Challenge 2:</b> integrating new understandings into established ways of thinking	<p><b>To avoid spread:</b></p> <ul style="list-style-type: none"> <li>○ Strengthen diagnostic skills among healthcare providers, including non-physicians.</li> <li>○ Empower migrant communities to identify the disease and seek timely treatment.</li> <li>○ Ensure prompt and easy access to advanced diagnostic testing for all cases where the suspected diagnosis lacks clinical confirmation.</li> <li>○ <b>Shift from a reactive approach to outbreaks towards proactive prevention policies,</b> including enhancing diagnostic capabilities among healthcare professionals and considering widespread preventative treatment for at-risk populations or in endemic settings.</li> </ul>
<b>Challenge 3:</b> the need for more attention to prevention in governance	

<sup>a</sup> "Challenges" as defined by de Vries DH, Geise M, Maukner AC, Kramarz P, Deogan C, Kinsman J. Developing a European framework for the prevention of communicable diseases: three points for attention. *Euro Surveill.* 2024 Oct; 29(43). <https://doi.org/10.2807/1560-7917.ES.2024.29.43.2400306>.

<sup>b</sup> Lopes MJ, da Silva ET, Ca J, Gonçalves A, Rodrigues A, Mandjuba C, Nakutum J, D'Alessandro U, Achan J, Logan J, Bailey R, Last A, Walker S, Marks M. Perceptions, attitudes and practices towards scabies in communities on the Bijagós Islands, Guinea-Bissau. *Trans R Soc Trop Med Hyg.* 2020 Jan 6; 114(1):49–56. <https://doi.org/10.1093/trstmh/trz102>.

health interventions, informed by rigorous cost-benefit analyses, are essential to mitigating its impact on both migrant and resident populations worldwide. Often underappreciated in its severity, scabies demands greater attention from clinicians and healthcare providers. Improving the ability to recognize and manage cases through enhanced diagnostic approaches and targeted interventions is critical, particularly in vulnerable subpopulations where presentations are frequently atypical or absent.

#### CRediT authorship contribution statement

**Giancarlo Ceccarelli:** Writing – review & editing, Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data

curation, Conceptualization. **Francesco Branda:** Writing – review & editing, Methodology, Investigation. **Fabio Scarpa:** Writing – review & editing, Methodology, Investigation, Formal analysis. **Mattia Albanese:** Writing – review & editing, Methodology, Investigation, Formal analysis. **Gabriella d'Ettorre:** Writing – review & editing, Methodology, Investigation. **Marta Giovanetti:** Writing – review & editing, Validation, Methodology, Investigation. **Massimo Ciccozzi:** Writing – review & editing, Investigation, Formal analysis.

#### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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