Dépistage et contrôle de la tuberculose chez les migrants en Europe

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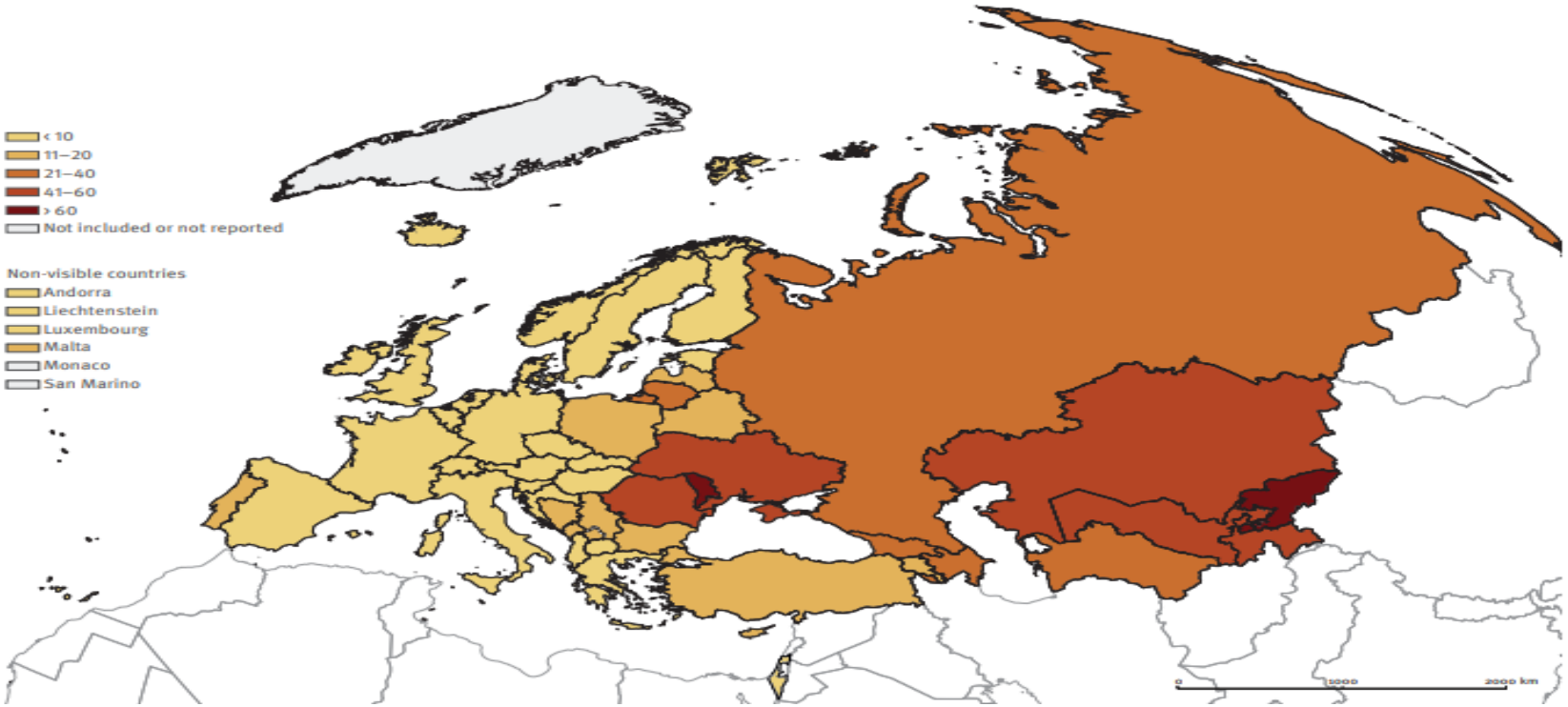
RÉSEAU NATIONAL DES CLAT

Tuberculose en Europe

Map 1. TB notification rates of new TB cases and relapses per 100 000 population, European Region, 2022



36179 cas incidents dans l'EU/EEA (8 cas pour 100 000).

European Centre for Disease Prevention and Control, WHO Regional Office for Europe. Tuberculosis surveillance and monitoring in Europe 2024 – 2022 data. Copenhagen: WHO Regional Office for Europe and Stockholm: European Centre for Disease Prevention and Control; 2024.

Tuberculose en Europe

Incidence supérieure à 10/100 000		
Pays	Incidence	Part de migrants
Moldavie	66,9	0,9
Roumanie	48,7	0,6
Lituanie	26,3	1,9
Lettonie	17	12,5
Serbie	15	0,4
Portugal	14,6	29,9
Bosnie	13,4	0,9
Malte	11,7	90,2
Bulgarie	11,6	1,1
Pologne	11,5	6,8
Turquie	11,5	15,6
Monténégro	11,3	7
Chypre	10,6	93,8
Albanie	10,3	0

Incidence inférieure à 10/100 000 et migrants <50%		
Pays	Incidence	Migrants
Irlande	4,3	49,5
Tchéquie	3,7	43,2
Slovénie	3,5	41,9
Espagne	7,8	40,7
Finlande	3,4	36,8
Estonie	9,7	27,1
Slovaquie	2,9	11
Croatie	5,5	9,4
Hongrie	4,5	8,2
Macédoine du Nord	6,9	2,1

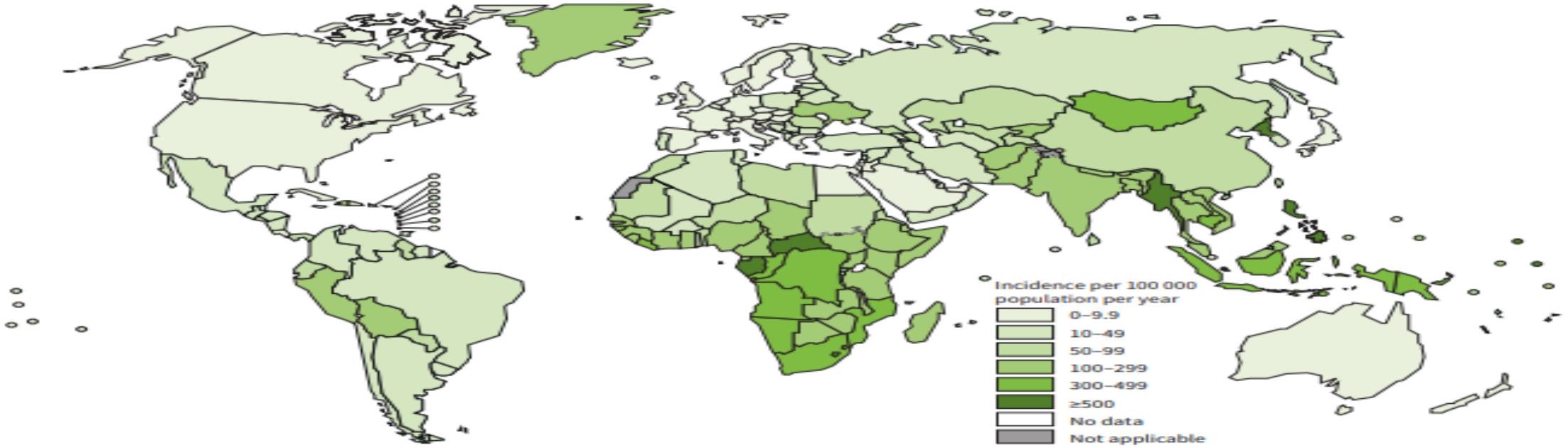
Incidence inférieure à 10/100 000 et migrants > 50%		
Pays	Incidence	Part de migrants
Norvège	3,2	90,2
Luxembourg	7,4	89,6
Suède	3,6	83,6
Pays-Bas	3,6	80,2
Grande Bretagne	7	77,7
Suisse	4,2	77
Islande	4,5	76,5
Danemark	3,8	73,8
Allemagne	4,9	72,4
Autriche	4,1	64,5
Belgique	7,3	64,2
France	6	63,2
Italie	4,1	57,4
Grèce	3,1	54,7

European Centre for Disease Prevention and Control, WHO Regional Office for Europe. Tuberculosis surveillance and monitoring in Europe 2024 – 2022 data. Copenhagen: WHO Regional Office for Europe and Stockholm: European Centre for Disease Prevention and Control; 2024.

Tuberculose dans le monde

FIG. 5

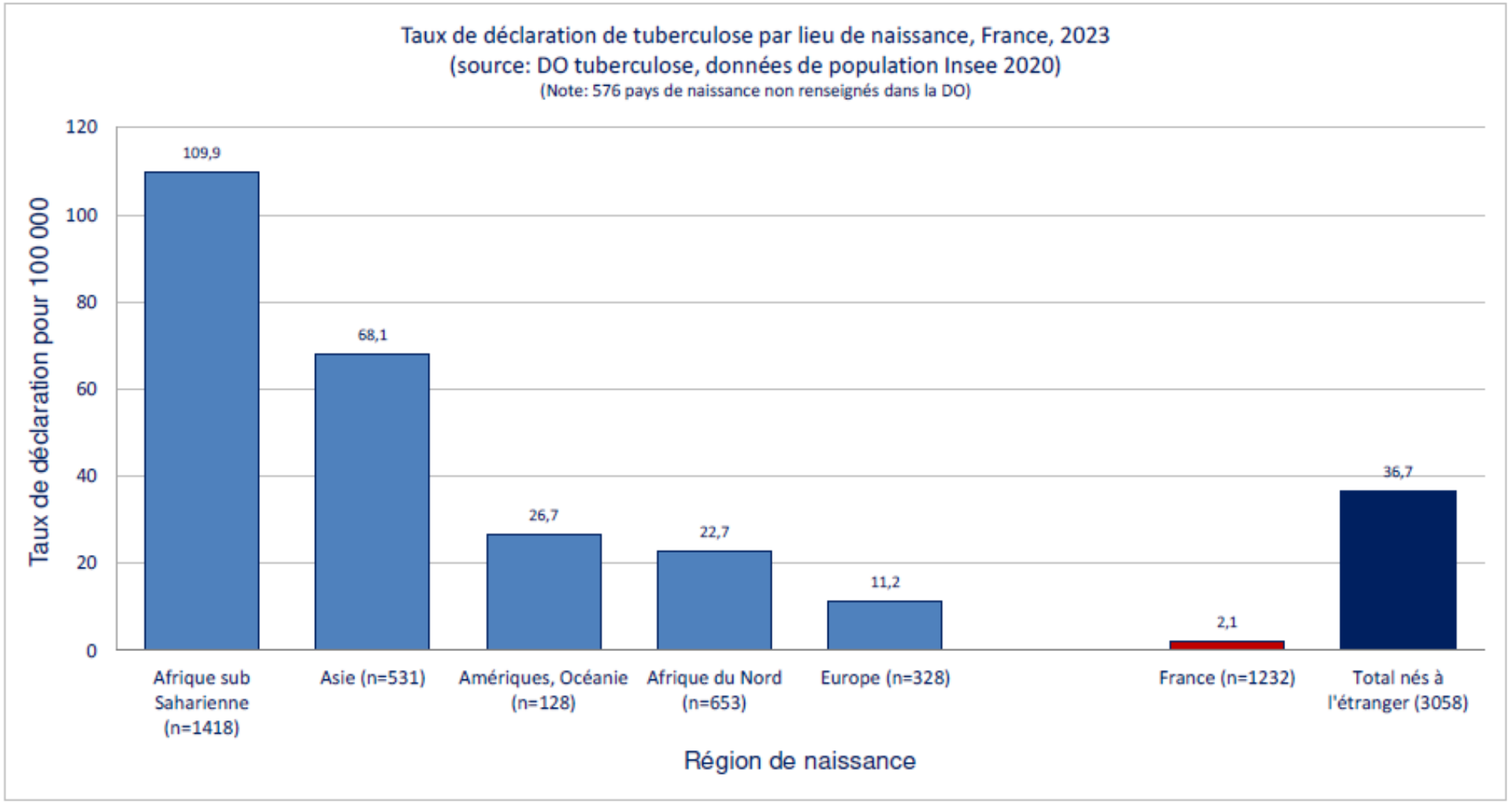
Estimated TB incidence rates, 2023



Global tuberculosis report 2024. Geneva: World Health Organization; 2024.

TAUX DE DÉCLARATION DE TUBERCULOSE MALADIE PAR RÉGION DE NAISSANCE, FRANCE, 2023

Santé publique France



Mécanismes

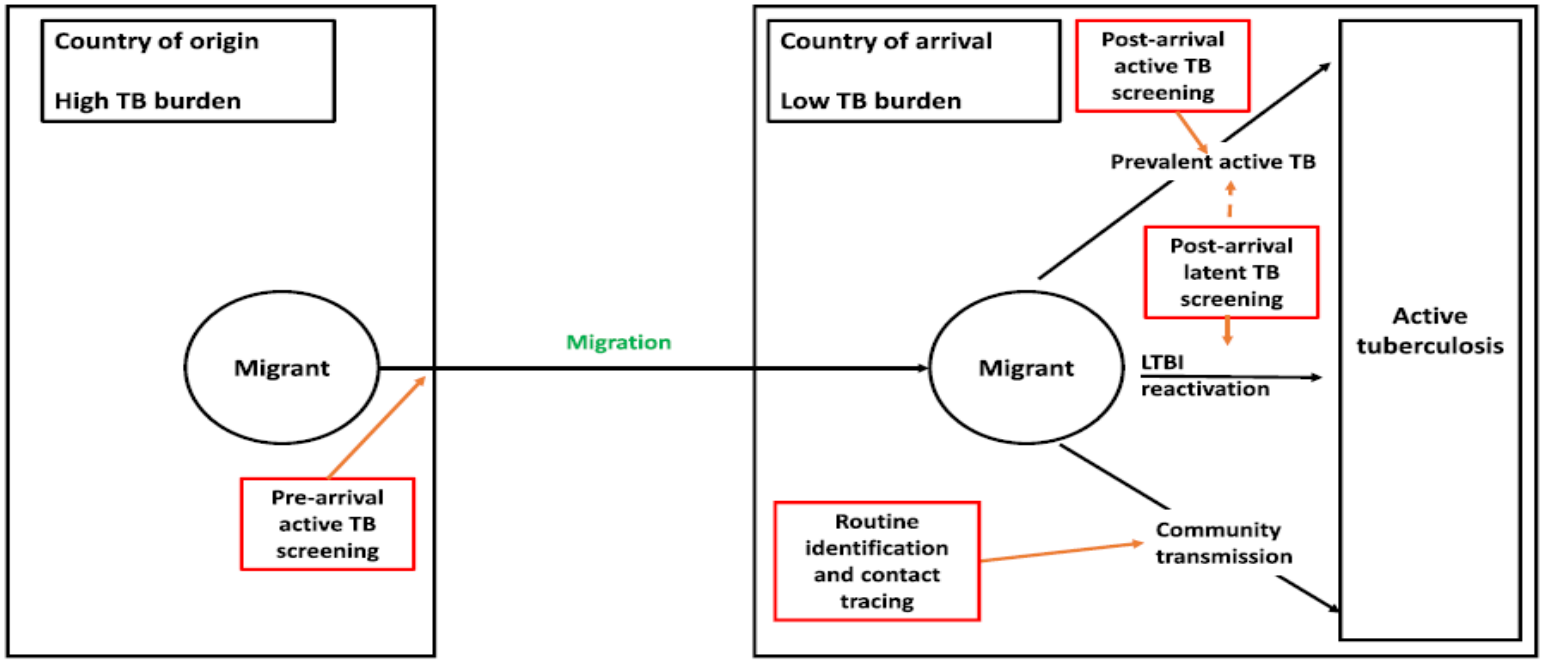
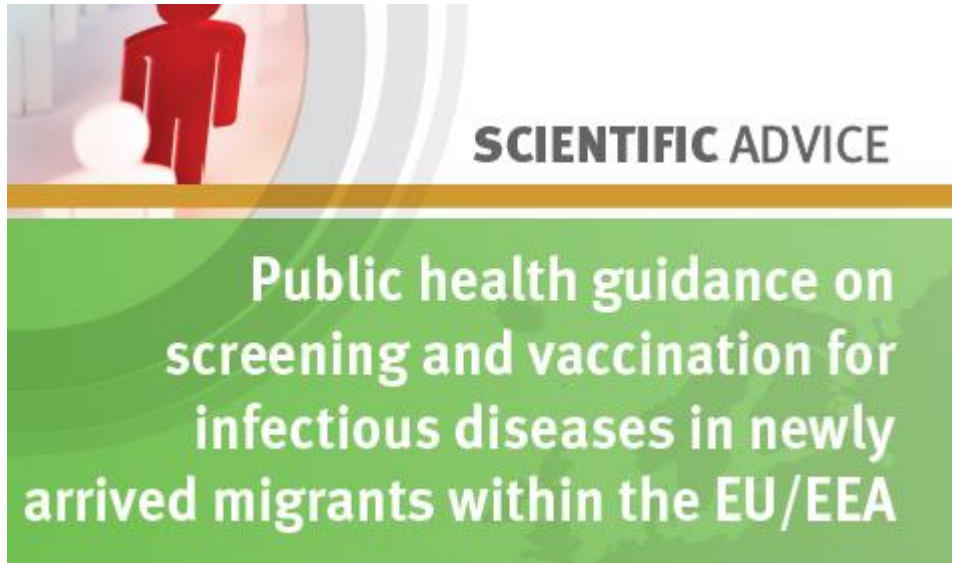


Fig. 2 Schematic diagram of migration, factors determining how incident active tuberculosis occurs and methods of screening migrants. Footnote: As a by-product of post-arrival latent TB screening, some cases of prevalent active TB may be identified

Pareek M et al, BMC Medicine (2016) 14:48

Tuberculose active : position de l'ECDC

- Active TB screening using chest X-ray (CXR) **soon after arrival** for migrant populations from high-TB incidence countries should be performed.
- Those with an abnormal CXR should be referred for assessment of active TB and have a sputum culture for Mycobacterium tuberculosis.



ECDC. Public health guidance on screening and vaccination for infectious diseases in newly arrived migrants within the EU/EEA. Stockholm: ECDC; 2018.

Tuberculose active

- La radio du thorax est l'examen clé du dépistage.
- La sensibilité de l'examen est excellente et supérieure à la clinique seule.

	Sensitivity	Specificity
Any TB symptoms	70,6	65,1
Chest X-Ray : any abnormality	94,7	89,1
Chest X-ray : suggestive of TB	84,8	95,6

van't Hoog A et al, Cochrane Database of Systematic Reviews 2022, Issue 3

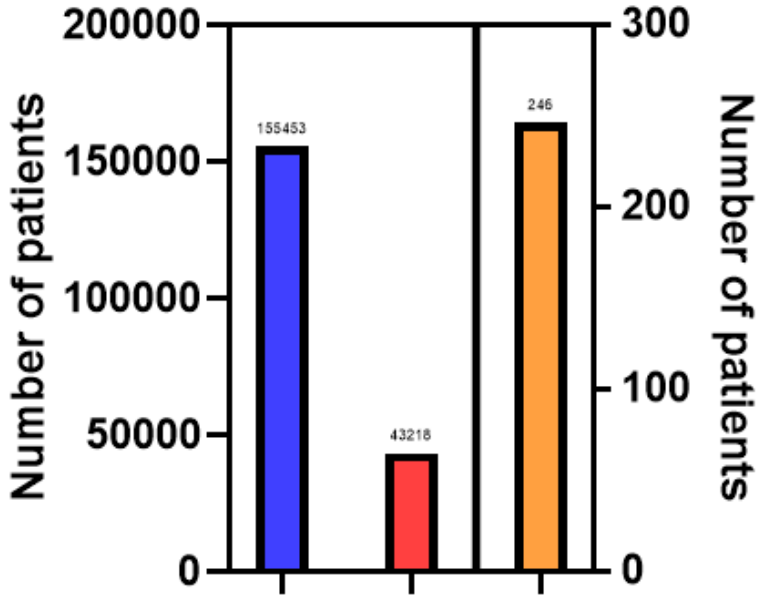
Tuberculose active : France

- Dépistage par examen clinique et radiographie du thorax.
- Dans les 4 mois.
- Pays de forte incidence de tuberculose (40 cas / 100 000 habitants)[2].
- Suivi pendant 2 ans depuis leur arrivée[1].
- Lieu privilégié : les CLAT.

1. Recommandations relatives à la lutte antituberculeuse chez les migrants en France, Conseil Supérieur d'Hygiène Publique de France, séance du 30 septembre 2005
2. Avis relatif à la détermination du seuil pratique pour définir un pays de haute endémicité. Haut Conseil de la Santé Publique. Séance du 18 mai 2018.

What is « known » : estimated screening coverage of the eligible population

Active TB screening in France in 2013-2014 by TB centers



Source : Insee, 2015
RAP 2013 & 2014

- No solid datas on TB screening performance
- Only TB centers publish an annual report of their activity

- NNS = 176.
- But the coverage of the targeted population by TB centers would be 27,8%.

Tuberculose active : autre pays européens.

Country	Target	Methods
Netherlands	TB incidence >50 per 100 000 for asylum seekers TB incidence > 100/100 000 for regular migrants	CXR Symptoms first + TST/IGRA if < 18 y
Norway	Countries with TB incidence >200 per 100 000, Afghanistan and Eritrea, everyone	CXR
Sweden	Asylum seekers	CXR if symptoms
Finland	Countries with a TB incidence⩾150 per 100 000 who plan to stay in the country for a period >3 months	CXR
Italy	TB incidence >100 per 100 000 in Italy for < 5 y (2010)	Triaging on symptoms, followed by CXR or sputum examination
Belgium	Asylum seekers	CXR
Germany	Asylum seekers ≥ 15 years	CXR. For persons aged 15-or pregnant women, TST/IGRA first.
Spain	High incidence countries (more than three times the local TB incidence) and arrived in the country < 5 years ago.	TST/IGRA first than CXR is abnormal.
Switzerland	All asylum seekers	Questionnaire first

Les stratégies diffèrent par :

- La population cible: seuil d'incidence variable, asile ou non.
- L'âge de la personne cible.
- La méthode de dépistage initial: radio, symptômes.

Tuberculose active : ex des Pays-Bas

Evaluation TB screening asylum seekers 2011-2015

TB incidence country of origin	Number	TB found by screening	Yield per 100,000 (+ Conf. Interval)
≤50	49,142	16	33 (19-53)
51-100	5,883	11	189 (94-337)
101-200	10,385	34	327 (227-457)
>200	23,966	65	271 (205-337)
unknown	10,180	0	-
Total	**99,506**	**126**	**127 (105-148)**

Criterium to stop screening:

- TB prevalence <50/100.000, or
- Number Needed to Screen (NNS) >2000

Tuberculose active : ex des Pays-Bas

TB incidence country of origin	Number	TB found by screening	Yield per 100,000 (+ Conf. Interval)
~~≤50~~	~~26,101~~	~~7~~	~~27 (11-55)~~
51-100	37,787	11	29 (15-52)
101-200	36,548	41	112 (80-152)
>200	13,028	38	292 (206-400)
unknown	2,837	0	-
Total	**116,200**	**97**	**83 (67-100)**

Criterium to stop screening:

- TB prevalence <50/100.000, or
- Number Needed to Screen (NNS) >2000

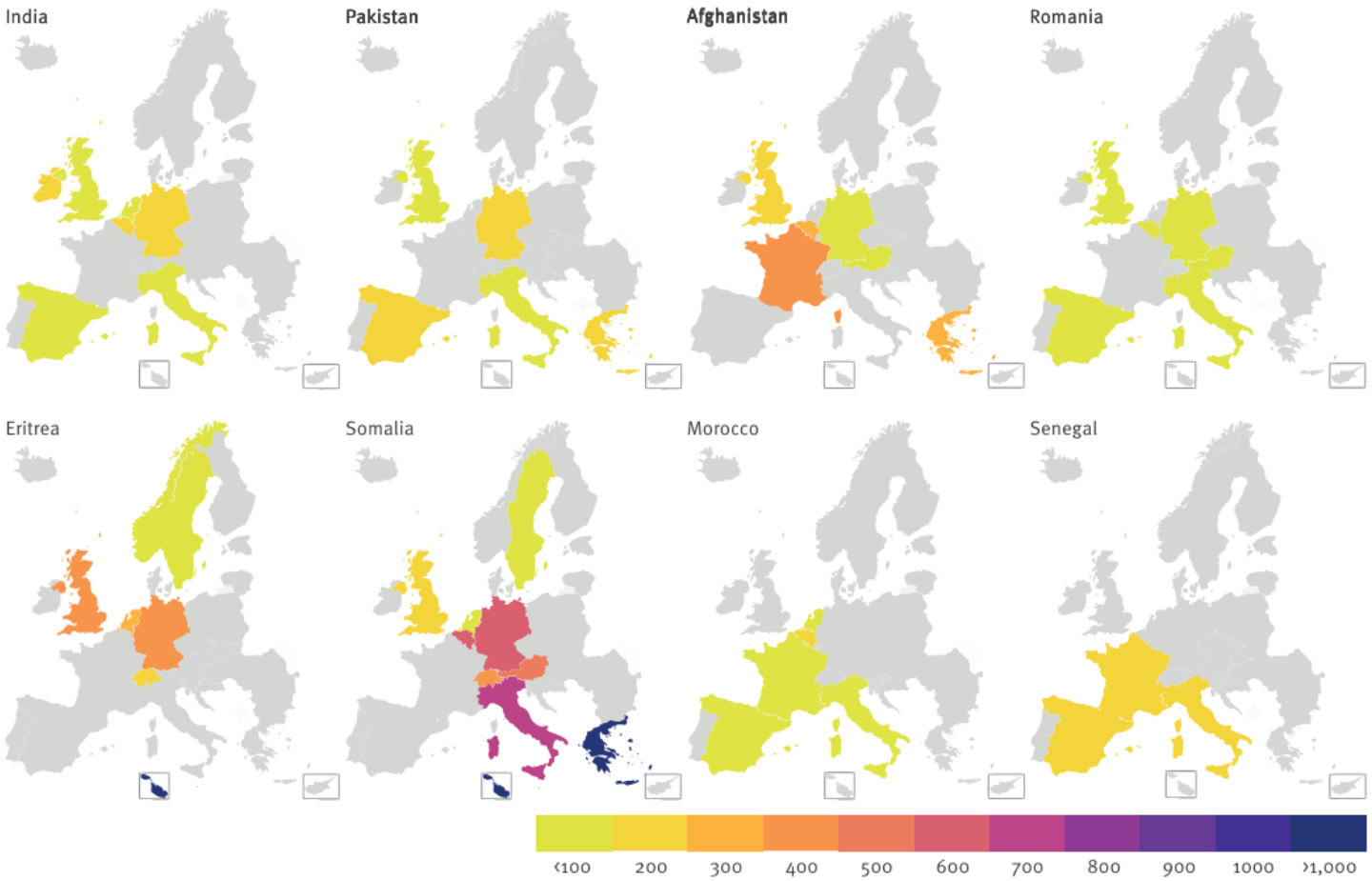
Tuberculose active : ex des pays sans radio de dépistage

Item	Points
Country of origin	0 pt if 20/100 000 1 pt if 20-49/100 000 2 pts if 50-99/100 000 3 pts if 100-149/100 000 4 pts if 150-199/100 000 5 pts if 200-299/100 000 6 pts if 300-399/100 000 7 pts if 400-499/100 000 8 pts if ≥ 500/100 000 10 pts if MDR TB incidence > 30/100 000
Currently smoking	1 pt
Cough	4 pts
Cough with phlegm	2 pts
Weight loss over the last 3 months	1 pt
Night sweats	1 pt
Previous TB treatment	1 pt
TB in member of immediate family	1 pt
Currently feeling sick	3 pt
Impression of poor health by the examiner	3 pt

- Ex du TB screen suisse.
- Positif si score **supérieur à 10.**
- Se 55% et Sp 96% mais taux de TB dépistés à 90 jours ≈ radio du thorax chez des demandeurs d'asile[1].

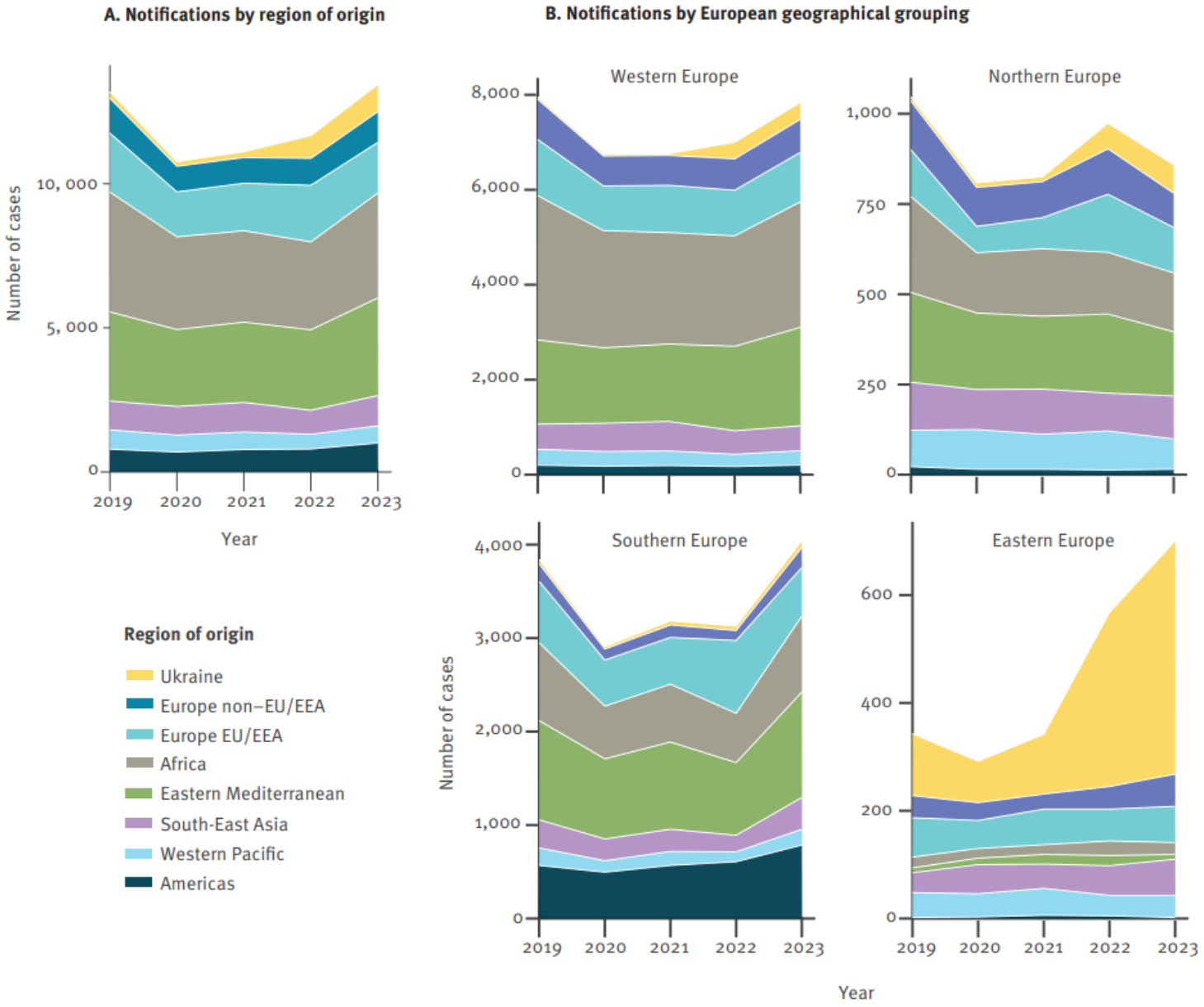
Geisler S et al, Int J Tuberc Lung Dis, 2010 Nov;14(11):1388-94.

Tuberculose active : population migrante différente.



- Chaque pays a une immigration particulière.
- Cela peut expliquer l'hétérogénéité des politiques de dépistage.

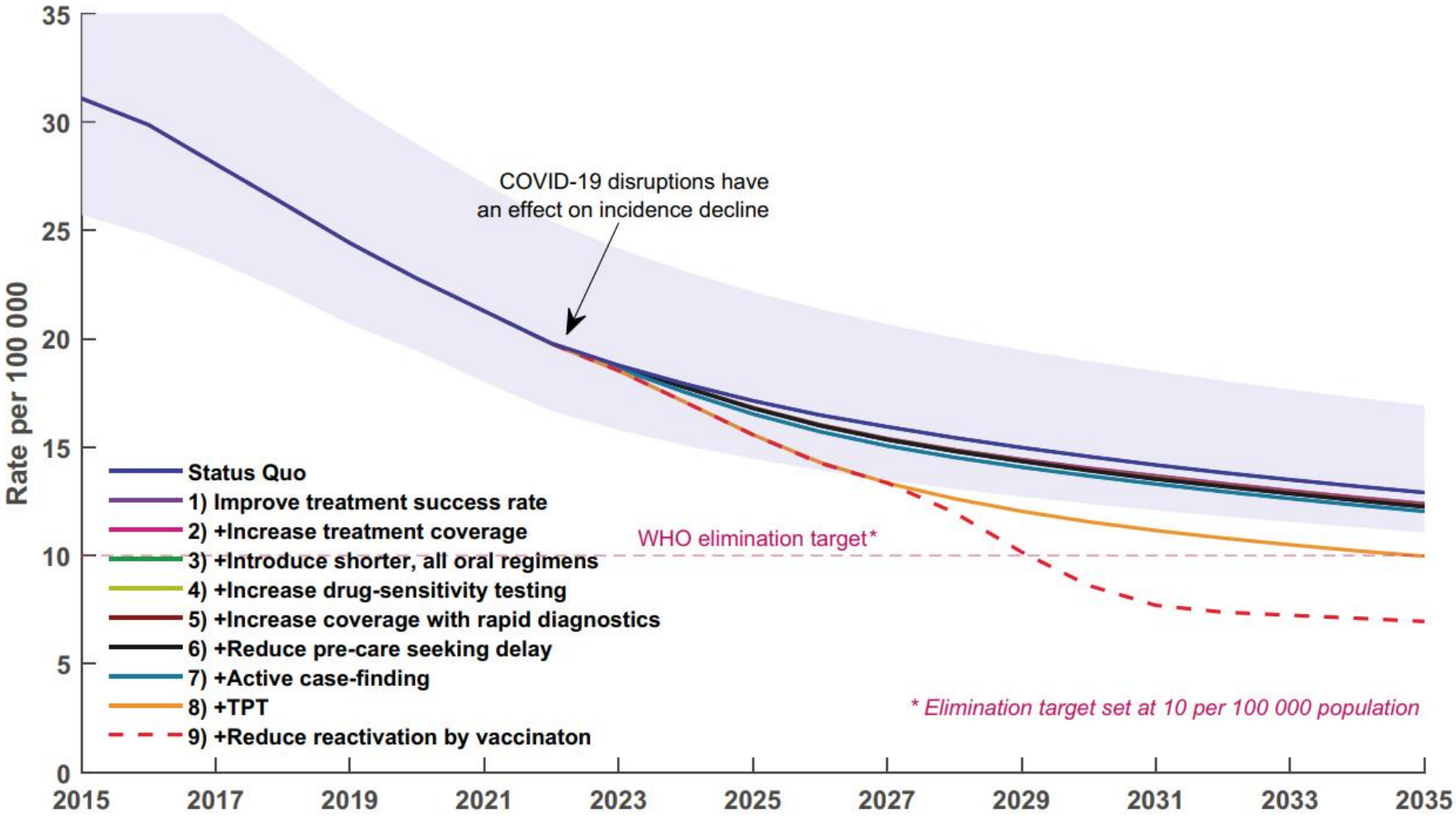
Vasiliu A et al, Eurosurveillance, 2023



- Chaque région d'Europe a une immigration particulière.
- Les dynamiques évoluent rapidement et nécessitent de fait une adaptation rapide.

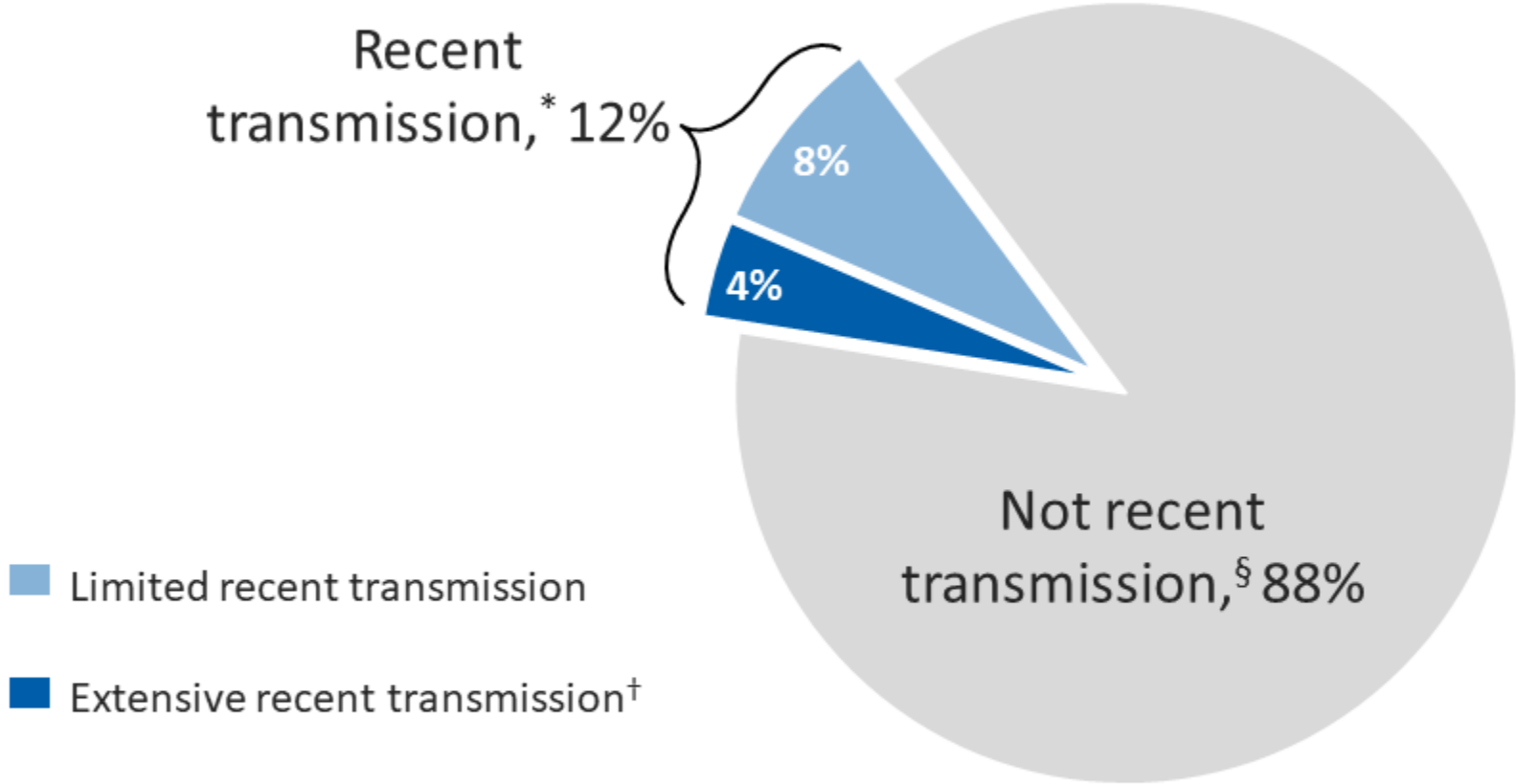
Vasiliu A et al, Shifting tuberculosis dynamics in the EU/EEA: geographical and drug resistance trends among people of foreign origin, 2019 to 2023. Euro Surv 2025

Fig. 5. Projected TB incidence in the European Region, 2016–2035



Tuberculosis action plan for the WHO European Region, 2023–2030

Genotyped TB Cases Estimated to be Attributed to Recent Transmission, United States, 2020–2021 (N=11,404)

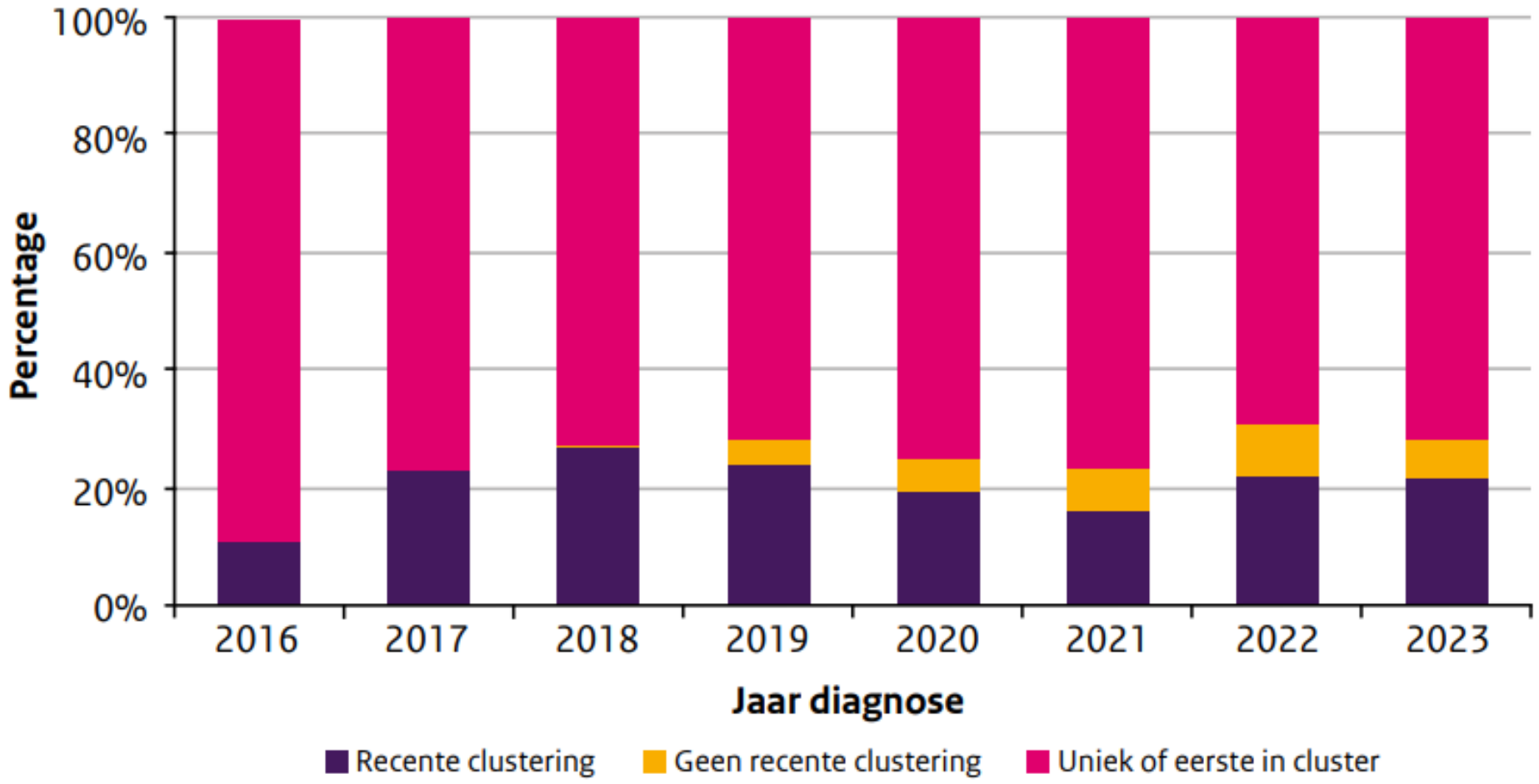


* A TB case is designated as attributed to recent transmission if a plausible source case can be identified in a person who i) has the same *M. tuberculosis* genotype, ii) has an infectious form of TB disease, iii) resides within 10 miles of the TB case, iv) is 10 years of age or older, and v) was diagnosed within 2 years before the TB case.

† A TB case is designated as attributed to extensive recent transmission when the criteria above for recent transmission are met, and furthermore the case belongs to a plausible transmission chain of six or more cases. Otherwise, the case is designated as attributed to limited recent transmission.

§ Cases not attributed to recent transmission may be misclassified in children <5 years old or indeterminate in persons with a recent U.S. arrival due to limitations of the plausible-source case method.

Figuur 10. Percentage clustering op basis van WGS-genotypering, 2016-2023



Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Tuberculose in Nederland 2023 – Surveillance rapport, 2024

Infection latente : position de l'ECDC

ECDC assessment

Evidence-based statement

Offer LTBI screening using a tuberculin skin test (TST) or an interferon-gamma release assay IGRA soon after arrival for all migrant populations from high-TB-incidence countries and link to care and treatment where indicated.

Ad hoc scientific panel opinion

The scientific panel members were in agreement that LTBI screening and treatment among migrant populations is an important TB control strategy and is required to achieve the WHO goal of eliminating TB. The panel concluded that the strength of the recommendation was conditional and that LTBI screening and treatment should focus on migrants from high-TB-incidence countries.

The scientific panel members were asked for their opinion on the evidence relating to: feasibility, acceptability, cost (resource use), and equity of LTBI screening among migrants. The results of the FACE survey showed:

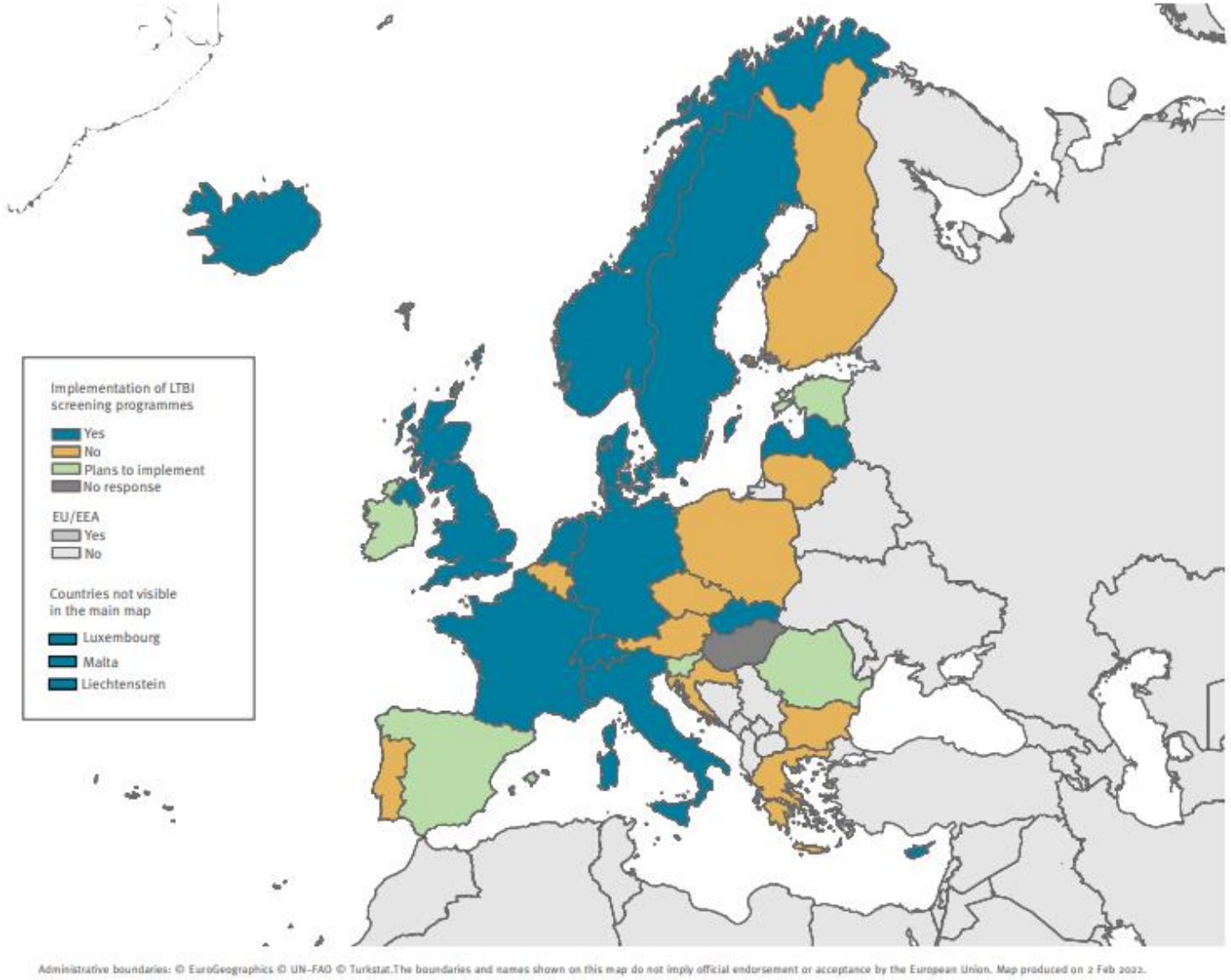
- a high level of agreement (87%) that LBTI screening among migrants is a priority in the EU/EEA;
- a medium level of agreement (57%) that LTBI screening among migrants is feasible in the EU/EEA;
- a medium level of agreement (64%) that LTBI screening among migrants is acceptable in the EU/EEA; and
- a high level of agreement (86%) that LTBI screening among migrants is equitable in the EU/EEA.

European Centre for Disease Prevention and Control. Public health guidance on screening and vaccination for infectious diseases in newly arrived migrants within the EU/EEA. Stockholm: ECDC; 2018.

Infection tuberculeuse latente : France

1. **< 18 ans provenant de pays dont l'incidence est > 40 cas pour 100 000.**
2. 18-40 ans et incidence > 100 cas pour 100 000 et :
   - Immunodépression.
   - Vivant avec des enfants de moins de 18 ans.
   - Travaillant dans une collectivité d'enfants.
   - Travaillant en milieu de soins.

https://sante.gouv.fr/soins-et-maladies/maladies/maladies-infectieuses/feuille-de-route-tuberculose-2019-2023



- L'existence d'une stratégie de dépistage de l'infection latente chez les migrants suit l'incidence des pays et le taux de migrants parmi les cas.
- Ceux à faible incidence +++

Margineanu I et al, Country-specific approaches to latent tuberculosis screening targeting migrants in EU/EEA* countries: A survey of national experts, September 2019 to February 2020. Euro Surveill. 2022;27(12):pii=2002070.

Infection tuberculeuse latente : les autres pays européens.

Country	Target	Timing	Methods
Netherlands	**AS:** <12 y or in replacement of 2 y follow up for > 12y and > 200/100 000 **RM:** >18y and >200/100 000 OU <18y and >100/100 000.	On arrival or shortly after arrival	IGRA/TST
Norway	Countries with TB incidence >200 per 100 000, Afghanistan and Eritrea, under the age of 35 years.	On arrival or shortly after arrival.	IGRA
Sweden	Patients <35y with TB incidence >100 per 100 000 or with an exposure risk factor	On arrival or shortly after arrival	IGRA/TST
Denmark	Incidence >100/100 000 et risk factors of progression	On arrival or shortly after arrival	IGRA/TST
Germany	None	NA	NA
Belgium	High-risk immigrants from high-burden countries (> 100/100 000).	On arrival or shortly after arrival	TST/IGRA
Spain	High-incidence countries (more than three times the local TB incidence in Catalonia) (Age not specified).	On arrival or shortly after arrival	TST/IGRA
Italy	Countries with TB incidence >100 per 100 000 (Age not specified)	On arrival or shortly after arrival	IGRA/TST
Switzerland	Young cases (age not specified) with incidence >100/100 000 and/or predisposing factor of exposition	On arrival or shortly after arrival	IGRA/TST

- Là encore, une hétérogénéité de pratiques.
- Certains pays ont une stratégie de dépistage massive.

Infection tuberculeuse latente : Norvège

Table 3 Estimated numbers of preventable TB cases and NNS and NNT for latent tuberculosis infection to prevent one case of TB in the first 5 years after arrival, among immigrants arriving in Norway 2008–2011

Country of origin (WHO-estimated TB incidence rate per 100 000)*	Incident TB based on diagnosis ≥1 month after arrival				Incident TB based on diagnosis >6 months after arrival			
	Preventable TB†‡	NNS‡§	NNT, crude‡¶	NNT, corrected‡**	Preventable TB†‡	NNS‡§	NNT, crude‡¶	NNT, corrected‡**
By country								
Myanmar (369)	8 (12–6)	111 (78–168)	30 (22–46)	NA††	5 (7–3)	181 (128–274)	50 (35–76)	NA††
Philippines (288)	31 (44–20)	218 (154–330)	62 (44–94)	59 (42–89)	16 (23–11)	419 (296–635)	119 (84–180)	104 (74–158)
Somalia (274)	113 (159–74)	66 (47–100)	18 (13–27)	13 (10–20)	75 (107–50)	99 (70–150)	27 (19–41)	17 (12–26)
Pakistan (270)	6 (9–4)	319 (225–484)	85 (60–129)	75 (53–113)	4 (6–3)	440 (311–668)	117 (83–178)	94 (67–143)
Ethiopia (207)	20 (29–13)	118 (83–179)	32 (23–49)	23 (16–34)	16 (22–10)	152 (108–231)	42 (29–63)	26 (19–40)
Afghanistan (189)	20 (28–13)	347 (245–526)	72 (51–109)	46 (32–69)	15 (22–10)	444 (313–673)	92 (65–140)	54 (38–82)
Thailand (171)	9 (13–6)	414 (292–628)	83 (59–126)	78 (55–119)	7 (9–4)	585 (413–887)	117 (83–178)	111 (79–169)
India (167)	8 (12–6)	334 (236–506)	82 (58–124)	75 (53–113)	7 (10–5)	396 (279–600)	97 (68–147)	89 (63–135)
Vietnam (140)	6 (8–4)	151 (107–229)	30 (21–46)	28 (20–42)	1 (2–1)	605 (427–917)	120 (85–182)	93 (66–141)
Eritrea (78)	35 (50–23)	194 (137–295)	53 (38–81)	43 (31–65)	24 (34–16)	286 (202–433)	78 (55–119)	56 (40–85)
Horn of Africa‡‡	168 (238–111)	99 (70–151)	27 (19–41)	15 (11–23)	115 (163–76)	145 (103–220)	40 (28–60)	18 (13–27)
Countries grouped by estimated TB incidence rate*								
>150/100 000	241 (341–159)	154 (109–234)	32 (23–49)	23 (16–35)	160 (226–105)	232 (164–352)	48 (34–73)	30 (21–45)
>200/100 000	193 (274–127)	121 (85–183)	28 (20–43)	20 (15–31)	124 (175–82)	188 (133–286)	44 (31–67)	27 (19–41)
>200/100 000 §§	248 (351–164)	149 (105–226)	35 (25–53)	23 (16–34)	163 (231–108)	227 (160–344)	53 (38–81)	29 (20–43)

Winje B et al, BMJ Open, 2019;9:e023412.

Infection tuberculeuse latente : Germany

Table 2 Estimated costs, TB cases prevented and cost-effectiveness for modeled scenarios of screening and treatment for latent tuberculosis infection among 15- to 34-year-old asylum seekers in Germany, 2022

LTBI screening threshold	Total costs* (million €)	TB cases prevented	QALYs gained	Incr. costs* (million €)	Incr. TB cases prevented	Incr. QALYs gained	ICER (Thsd. € per TB case prevented)	ICER (Thsd. € per QALY gained
≥ 250	0.31 (0.20–0.42)	16 (7–32)	7.3 (2.7–14.8)	0.31 (0.20–0.42)	16 (7–32)	7.3 (2.7–14.8)	22.3 (8.2–50.0)	51.0 (18.0–114.1)
≥ 200	0.56 (0.38–0.77)	29 (12–56)	13.2 (4.9–26.3)	0.25 (0.17–0.35)	13 (5–25)	5.8 (2.1–11.6)	23.3 (8.6–52.2)	53.3 (19.1–122.5)
≥ 150	1.10 (0.74–1.52)	56 (23–105)	24.9 (9.3–49.9)	0.54 (0.37–0.74)	26 (11–50)	11.8 (4.4–23.7)	24.5 (9.2–53.7)	55.9 (20.2–128.2)
≥ 100	1.19 (0.80–1.63)	60 (24–113)	26.6 (9.9–53.5)	0.09 (0.06–0.12)	4 (2–7)	1.7 (0.6–3.3)	27.1 (10.5–59.8)	62.0 (23.2–142.0)
≥ 50	1.66 (1.13–2.27)	75 (31–142)	33.6 (12.5–67.1)	0.47 (0.33–0.66)	16 (6–30)	6.9 (2.6–13.8)	36.0 (14.7–78.4)	82.4 (31.6–184.7)
≥ 20	2.04 (1.39–2.78)	84 (34–157)	37.7 (14.0–74.7)	0.38 (0.26–0.54)	9 (4–18)	4.1 (1.5–8.7)	48.7 (19.8–106.7)	111.8 (42.7–251.9)
None†	2.91 (2.02–4.02)	100 (41–187)	44.8 (16.8–88.3)	0.87 (0.60–1.25)	16 (5–35)	7.1 (2.2–16.3)	68.0 (26.1–158.7)	156.3 (54.4–373.3)

Intervals in brackets denote 95% uncertainty intervals. Latent tuberculosis infection (LTBI) screening thresholds shown denote levels of country-of-origin tuberculosis incidence above which asylum seekers would be eligible for LTBI screening and tuberculosis preventive treatment. Screening threshold alternatives are presented in the order of increasing cost, starting with the least costly screening scenario (≥250 incidence threshold). Increments for tuberculosis cases prevented, quality-adjusted life years (QALYs) gained and incremental cost-effectiveness ratios (ICER) were calculated with respect to the previous less costly alternative (i.e. ≥250 threshold compared to no screening, each of the other thresholds compared to the next higher threshold, "none" compared to the ≥20 threshold). *Costs incurred for LTBI screening and TPT are offset for discounted future savings of costs for the management of TB among those in whom TB was prevented - see main text. † No threshold was used; all individuals were eligible for screening regardless of country-of-origin TB incidence

Marx F et al, BMC Public Health (2021) 21:2172

Infection latente : obstacles.

- 58 studies, describing 70 distinct cohorts and 748 572 people.
- Factors associated with fewer losses : immune-compromising medical indications, being part of contact investigations, and use of rifamycin-based regimens.

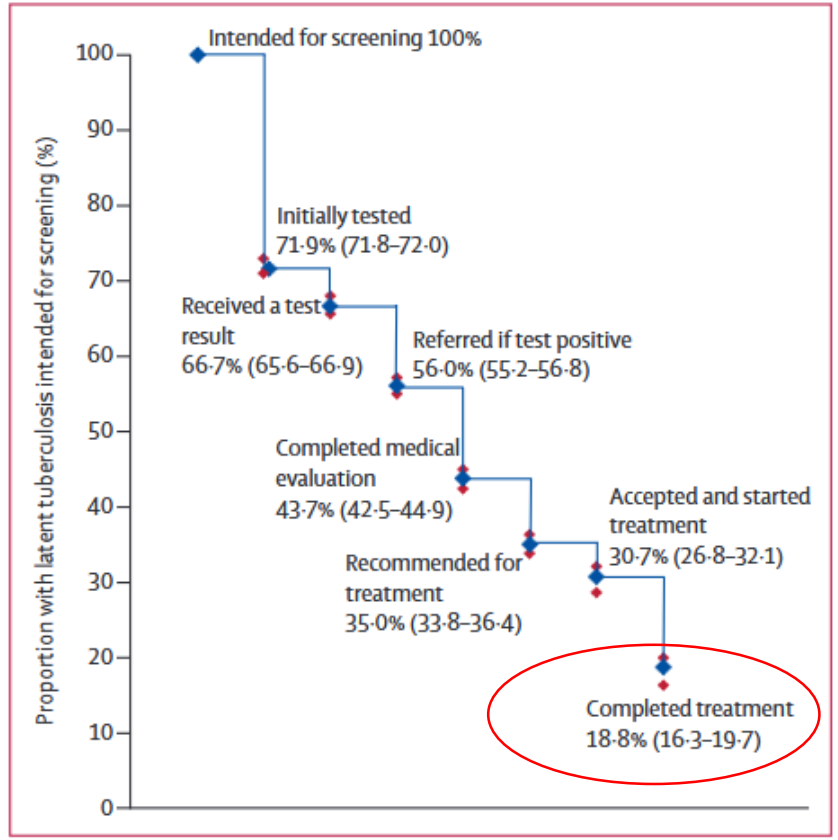


***Figure 2*: Losses and drop-outs at each stage of the cascade of care in latent tuberculosis**
Numbers in parentheses are 95% CIs. The value for each level is calculated as the product of the value from the preceding step, multiplied by the pooled estimate for that step (from fixed-effects analysis).

Alsdurf, H., Hill, P. C., Matteelli, A., Getahun, H., & Menzies, D. (2016). The cascade of care in diagnosis and treatment of latent tuberculosis infection: a systematic review and meta-analysis. The Lancet Infectious Diseases, 16(11), 1269–1278. doi:10.1016/s1473-3099(16)30216-x

Infection latente : obstacles.

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Migrants

	Pooled event rate
Completed screening	43,4% (20-67)
Starting treatment	54,6% (36-73)
Completing treatment	14,3% (5-24)

Alsdurf, H., Hill, P. C., Matteelli, A., Getahun, H., & Menzies, D. (2016). The cascade of care in diagnosis and treatment of latent tuberculosis infection: a systematic review and meta-analysis. The Lancet Infectious Diseases, 16(11), 1269–1278. doi:10.1016/s1473-3099(16)30216-x

Management, human rights and finance	Governance	Legal framework	Commitment to cross-border TB control and care Ensure legal basis for cross-border TB control and care within EU and non-EU, and between EU and non-EU
		Funding	Ensure funding from government resources, health insurance and/or bilateral and multilateral funding mechanisms
		Intercountry correspondence	Create and maintain a live list of TB service providers in the region
	Service delivery	Prevention	Diagnosis and treatment of LTBI
		TB infection control	Administrative measures, environmental measures and personal protection
		Diagnosis	Early diagnosis including drug-resistant TB
		Treatment	Prompt and effective treatment
		Continuity of care	No deportation before the end of treatment or at least until the end of intensive phase and ensuring continuation phase treatment will be followed
	Surveillance and monitoring	Individual patient data	Effective transfer of patient's record
			Feedback to the centre sending patients
		Programme performance	Relevant indicators at country and regional level measure progress
	Supportive environment	Enablers and incentives	Counselling Psychosocial support to patients
		Advocacy communication and social mobilisation	Empower communities for providing migrant-sensitive services Improve communication with migrant communities Advocate for full engagement of health authorities and stakeholders

Dara M et al, Minimum package for cross-border TB control and care in the WHO European region: a Wolfheze consensus statement; Eur Respir J 2012; 40: 1081–1090

Goals of the Working Group for TB & Migrant Health

Aim: To provide EU/EEA countries with advice on good practices to ensure the continuity of care for people who have been diagnosed with TB and transfer between EU/EEA countries.

Specific objectives:

1. To identify and describe good practices to ensure the continuity of care for people with TB (in particular migrant populations), implemented in EU/EEA countries through cross-border collaborations.
2. To identify challenges experienced by treating physicians when transferring out people with TB migrating from one EU country to another.
3. To propose a basic information package to promote harmonised cross-border TB management across EU/EEA countries.

Conclusion

- Les stratégies de contrôle diffèrent selon les pays européens.
- La stratégie de dépistage de l'infection latente chez la personne migrante est ambitieuse (et nécessaire) mais présente de nombreux obstacles.
- Une réévaluation des stratégies et une adaptabilité de celles ci est nécessaire afin d'ajuster les moyens aux populations prioritaires.