

# 105年全國結核病防治檢討會議

## 結核病防治新知介紹

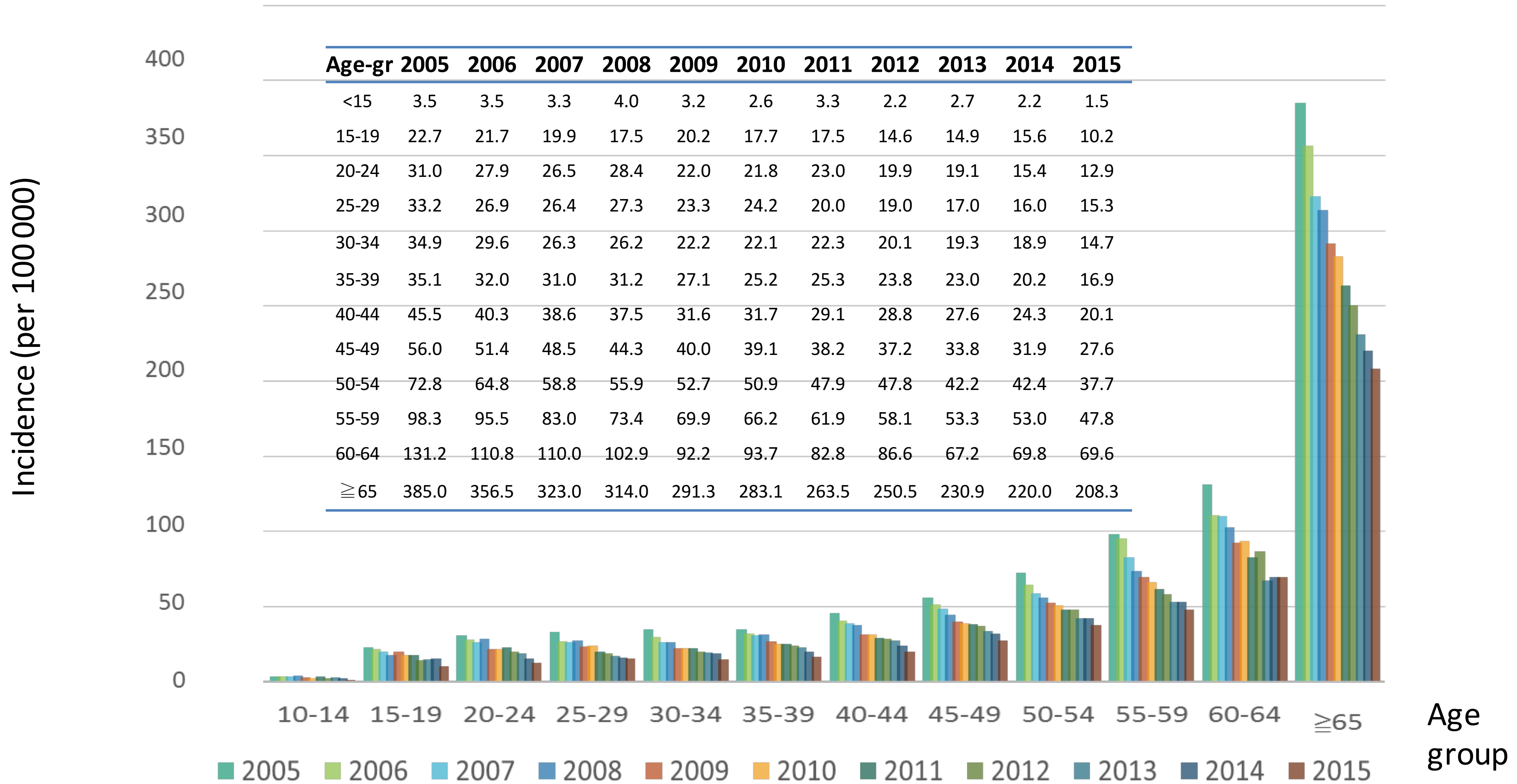
李品慧醫師

Oct. 2016

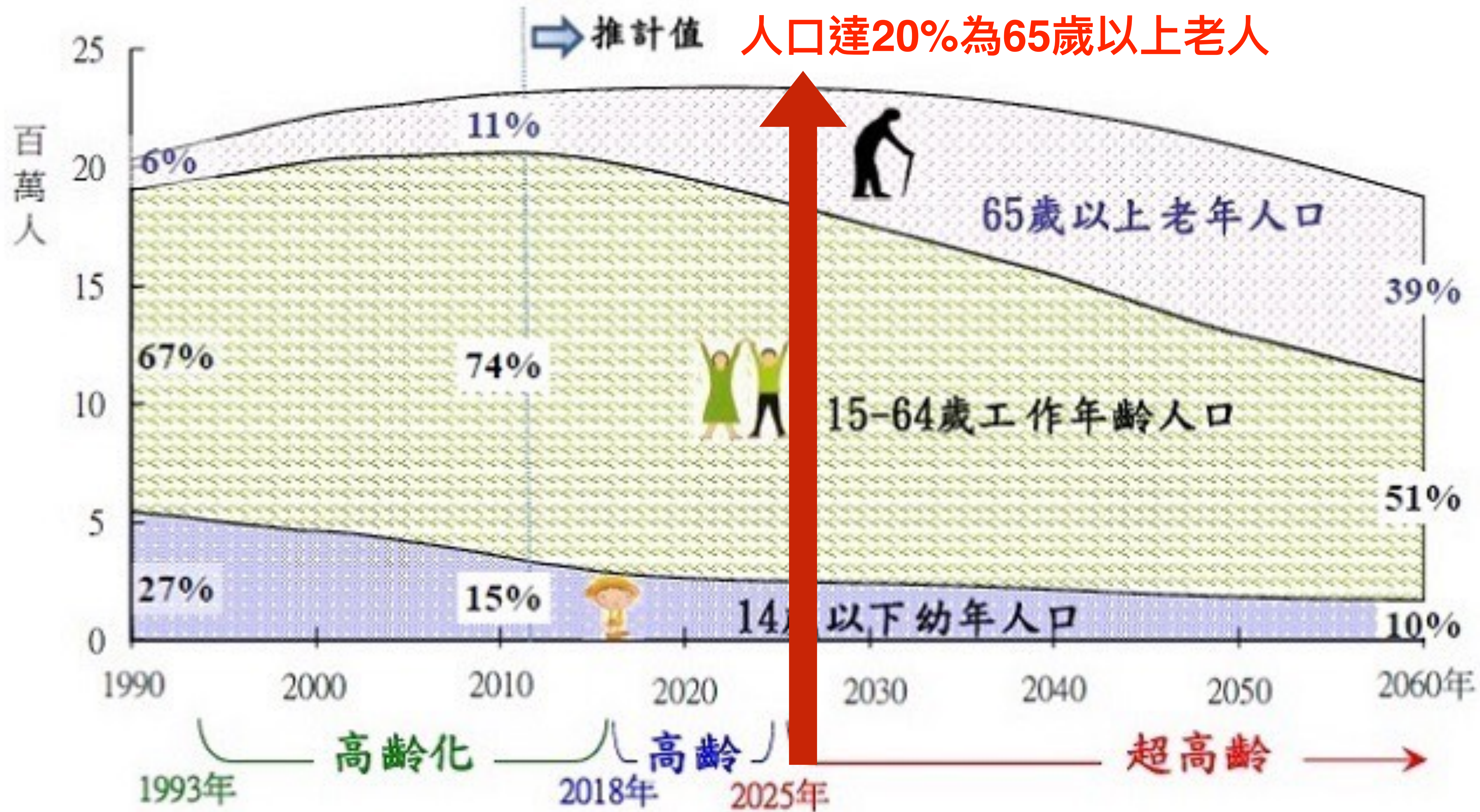
# 大綱

- 合併潛在性疾病族群的結核病風險
- 高風險族群主動發現
- 潛伏結核感染治療推廣實證基礎

# 年齡別發生率, 2005-2015









# 合併潛在性疾病的TB風險：台灣的資料

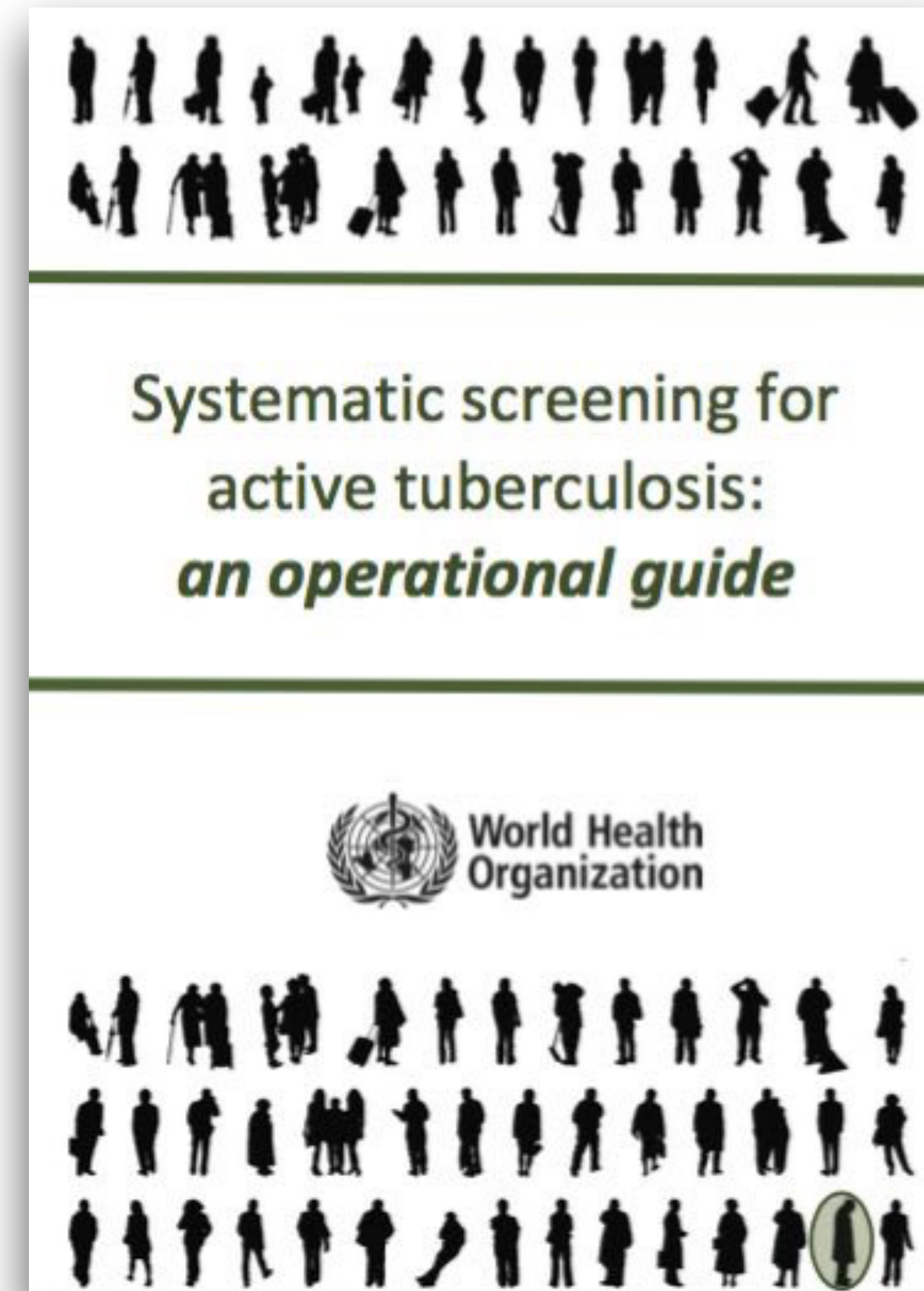
	發生率	相較於一般族群的風險
HIV	64-440	1.4-9.6
矽肺症/塵肺症	473	10.3
糖尿病	128	2.8
慢性腎衰竭/透析族群	141.8	3.1
腫瘤壞死因子阻斷劑使用者 (TNF-alpha blocker users)	600	13.1
器官/骨髓移植	500-688	10.9-15.1
胃癌 (含胃切除及化學治療)	523	11.4
血液腫瘤	120	2.6

# 大綱

- 合併潛在性疾病族群的結核病風險
- 高風險族群主動發現
- 潛伏結核感染治療推廣實證基礎

# 系統性地進行主動發現

- 早期診斷及治療活動性結核病人
- 避免延遲診斷所造成預後不佳，或增加社會與經濟因結核病增加的負擔
- 減少社區傳播，進一步下降結核病的發生率



# 建議篩檢對象

**強烈**建議

(strong recommendations)

- 家戶/密切接觸者
- HIV感染者
- 曾經或目前工作有暴露矽(Silica)的人員

在符合條件的情形下建議

(Conditional recommendations)

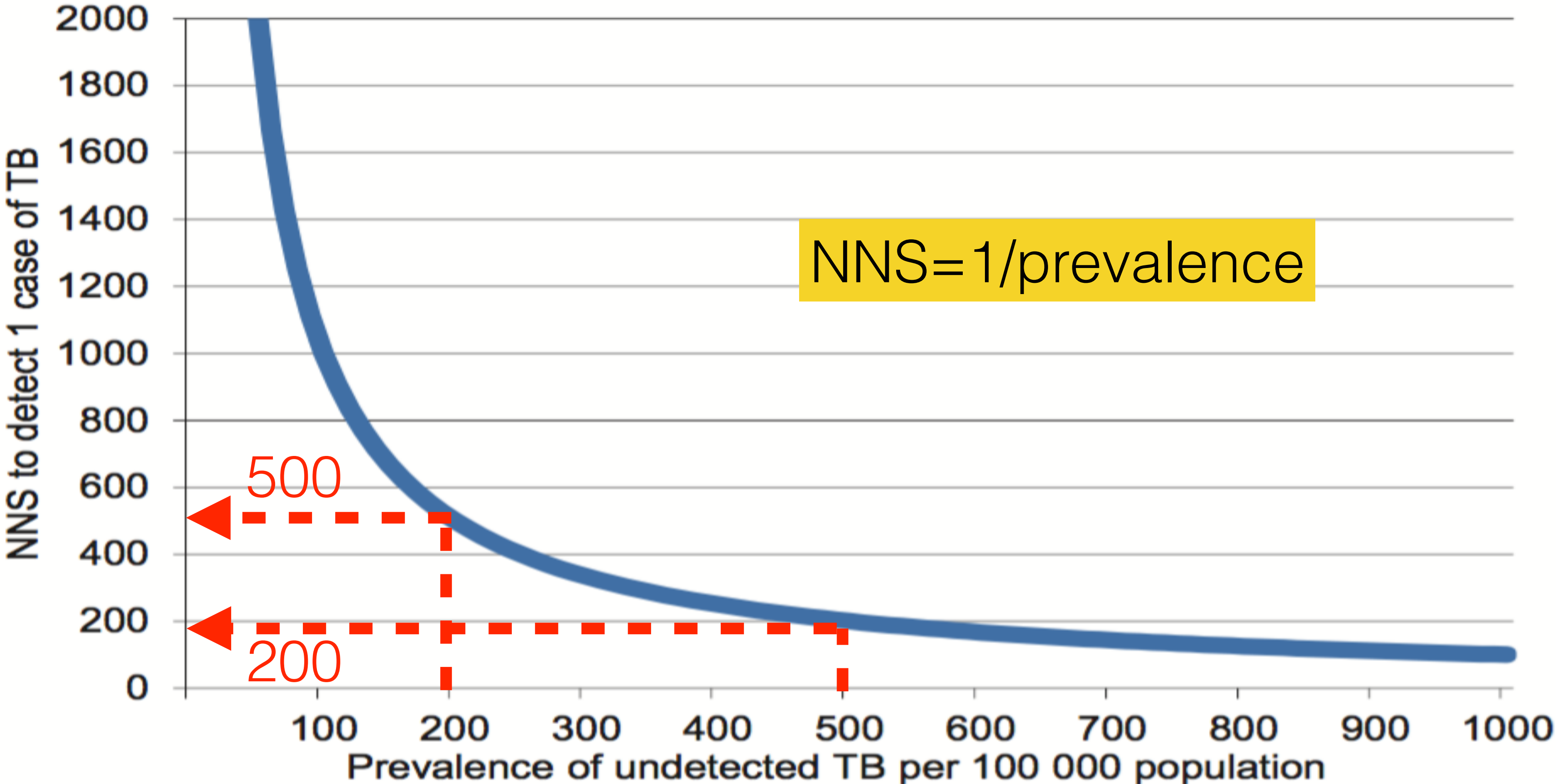
- 監獄
- 胸部 X 光有纖維化病灶且未曾接受治療
- 結核病盛行率100/100 000以上的族群，當個案屬於高危險族群，或正尋求/接受醫療照護的時候可考慮進行結核病篩檢
- (a)在某些地理區域結核病盛行率非常高 ( $\geq 1\%$ ); (b)尋求醫療照護有困難的次族群 (如：遊民，偏鄉醫療照護資源不足，山地鄉，移民)



**Table 1. Possible risk groups to consider when screening for tuberculosis (TB) <sup>6</sup>**

Potential site of screening	Risk group
<b>Community</b>	Geographical areas with a high prevalence of TB
	Subpopulations with poor access to health care and with other associated risk factors (such as living in a poor or a remote area; being a member of an indigenous or tribal population; being a migrant, refugee, homeless, or nomadic)
<b>Hospital outpatient and inpatient departments, and primary health-care centres</b>	People previously treated for TB
	People with an untreated fibrotic chest radiography lesion
	People living with HIV / People attending for HIV testing
	People with diabetes mellitus
	People who smoke / People with chronic respiratory disease
	Undernourished people
	People who have had a gastrectomy or jejunioileal bypass
	People with an alcohol-use disorder / Injection drug users
	People with chronic renal failure
	People on treatments that compromise their immune system
	Elderly people
	People in mental health clinics or institutions
	General outpatients/inpatients
<b>Residential institutions</b>	Prisoners and prison staff
	People residing in shelters
	Other congregate institutions (such as the military)
<b>Immigration and refugee services</b>	Immigrants from settings with a high prevalence of TB
	People in refugee camps
<b>Workplaces</b>	Health-care workers
	Miners or others who are exposed to silica
	Other workplaces with a high prevalence of TB

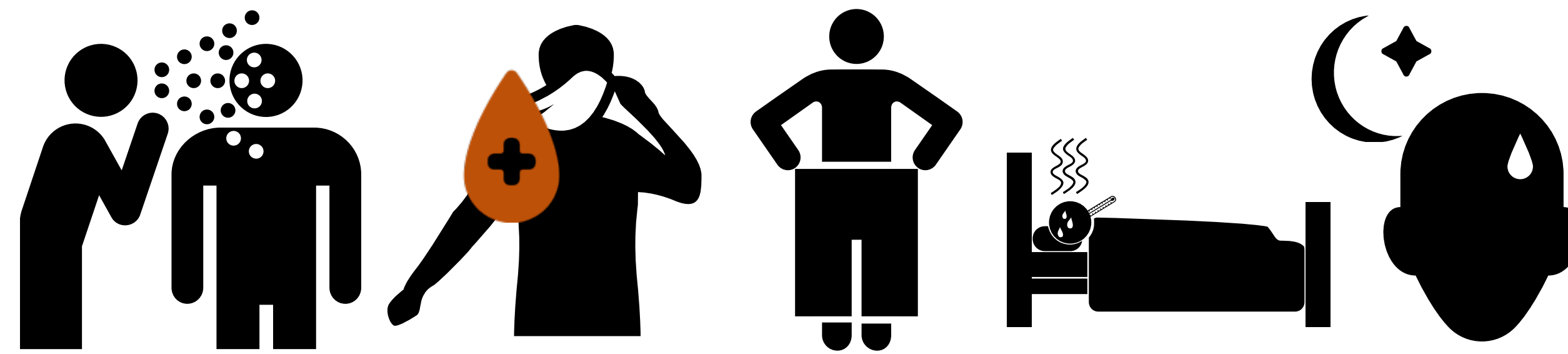
# 需要篩檢多少人才能找到一個活動性結核病人？ (Number Needed to Screen, NNS)



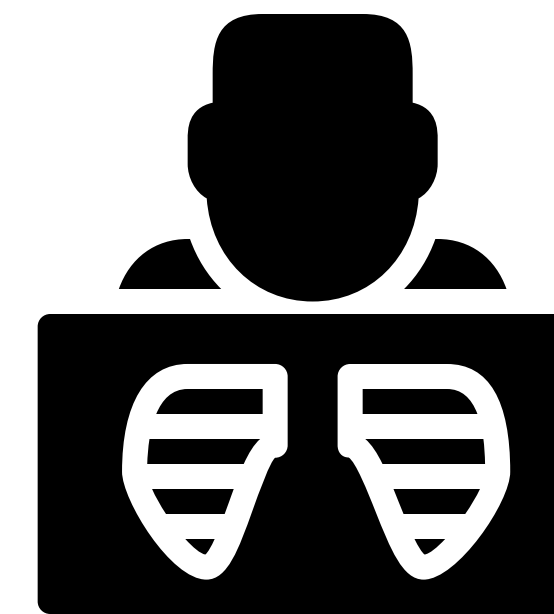


# 選擇合適的篩檢流程

初篩  
工具



出現任一結核病的疑似症狀



CXR



Xpert/傳統檢驗



## 主動篩檢的評估指標



- 應篩檢比例 =  $B/A$
- 篩檢懷疑 T B 比例 =  $C/B$
- 疑似 T B 接受進一步評估比例 =  $D/C$
- 篩檢被診斷為 T B =  $E/B$

**Characteristics of TB cases among residents in mountainous areas, ACF vs. non-ACF, 2010-2011 (N=697)**

	<b>TB cases, by ACF (%) (n=105)</b>	<b>TB cases, non-ACF (%) (n=592)</b>	<b>p-value*</b>
<b>Male</b>	73 (69.5)	369 (62.3)	0.159
<b>Age group</b>			
<b>&lt;20</b>	11 (10.5)	51 (8.6)	
<b>21-40</b>	24 (22.9)	131 (22.1)	
<b>41-60</b>	50 (47.6)	208 (35.1)	0.032
<b>61-80</b>	14 (13.3)	150 (25.3)	
<b>&gt;80</b>	6 (5.7)	52 (8.8)	
<b>Chest X-ray findings</b>			
<b>Cavitation</b>	<b>22 (21.0)</b>	<b>94 (15.9)</b>	
<b>other abnormalities</b>	83 (79.1)	498 (84.1)	0.198
<b>AFB smear</b>			
<b>positive</b>	<b>49 (46.7)</b>	<b>202 (34.1)</b>	0.014
negative	56 (53.3)	390 (65.9)	
<b>Culture</b>			
<b>positive</b>	83 (79.1)	379 (64.0)	0.003
<b>negative</b>	22 (21.0)	213 (36.0)	

# 為何病人會延遲診斷？

## 遇到的障礙

- 缺乏 T B 知識
- 誤認為其他疾病
- 疾病標籤化

- 就醫路途遙遠
- 沒錢無法搭乘交通運輸
- 請假沒薪水
- 覺得附近的醫療院所照護品質不佳

- 醫療人員沒懷疑 T B
- 缺乏訓練
- 臨床工作負擔太大
- 缺乏動機
- 收不到痰檢體
- 診斷工具敏感度差
- 報告發太慢

暴露

感染

發病

就醫

診斷

治療

## 可以解決的方法

- 提升民眾的 T B 知能
- 善用大眾媒體進行衛教傳播
- 社區參與

- 社區外展
- 行動診所
- 照護工作重分配以擴大服務族群

- 增加訓練
- 改變篩檢流程
- 改善留痰方法和品質
- 積極納入所有照護人員參與
- 改進資訊交換流程，藥品供應鏈



# 深入瞭解就醫的障礙是什麼？

## 衣索比亞的質性訪談

- 我住的附近沒有醫療院所，所以我只好到藥房去買藥
- 從我住的地方去就醫走路要兩小時，但我現在得花上三個半小時
- 雖然我想去看醫生，但是我沒錢
- 我剛好聽到大聲公說咳嗽兩週以上一定要來檢查，所以就去接受檢查了
- 我不想花錢，剛好社區的健康志工來敲門看我，所以我就去檢查了
- 我當時人不舒服很虛弱，剛好社區志工來我家。他們能夠挨家挨戶訪視真是太好了

Tulloch et al. BMC Public Health 2015

# 巴基斯坦：結合社區和診所力量



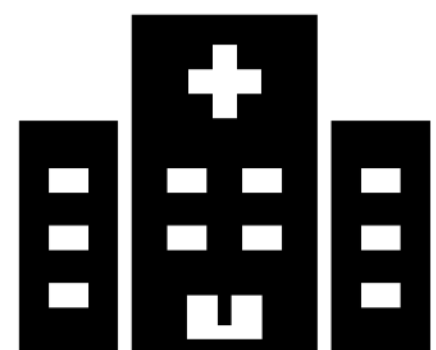
## 家庭醫師和診所

- 候診區域進行症狀篩檢，符合者由診所送驗痰
- 獎勵：每日篩檢量，取得高品質的痰送驗量，診斷 S + 和 S- 病人數



## 社區篩檢工作者

- 依篩檢民眾完成送驗痰量來獎勵
- 獎勵金透過手機的帳戶獲得回饋

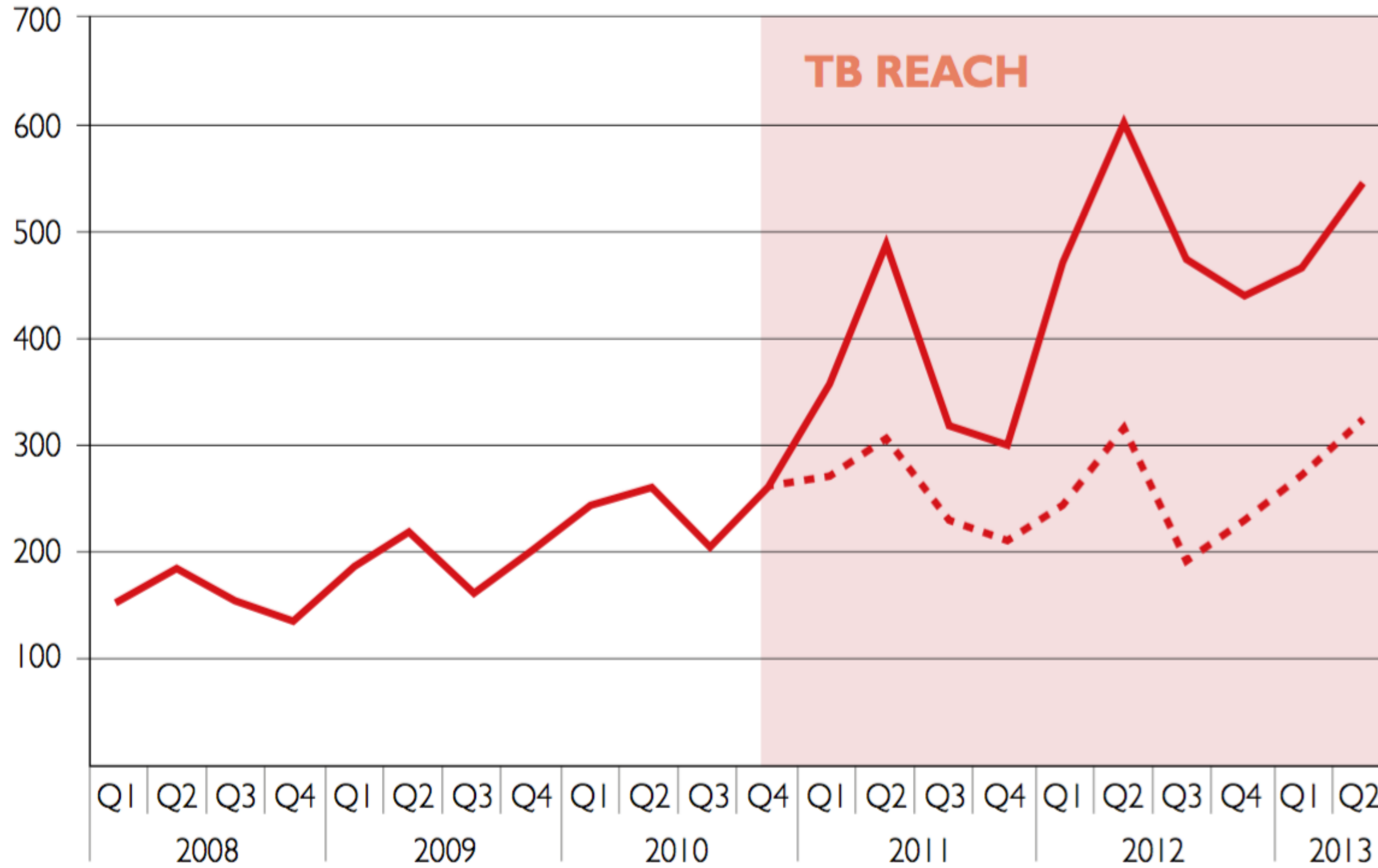


## Indus hospital

- 訓練社區志工，家庭醫師，並給予廣告該院所提供 T B 服務;同時作為referral center
- 社區動員：廣告看板，電視台廣告...

# 巴基斯坦 TB Reach Project

## SS+ TB Patients Treated



SS+ TB Patients Treated — SS+ TB Patients Treated (in absence of TB REACH) - - -






# 社區診斷 尋找在地的問題 以及可能的解決方法

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## Improving Tuberculosis Case Detection

A compendium of TB REACH case studies, lessons learned and a monitoring and evaluation framework

**Stop TB Partnership**  
TB REACH

# 大綱

- 合併潛在性疾病族群的結核病風險
- 高風險族群主動發現
- 潛伏結核感染治療推廣實證基礎



# Global priority indicators

## End TB Strategy

All countries should aim to reach these targets at the latest by 2025.

### **Treatment coverage**

Number of people that developed TB, and were notified and treated, out of the total estimated number of incident cases in the same year (%).

≥ 90%

### **TB treatment success rate**

Number of TB patients who were successfully treated out of all notified TB cases (%).

≥ 90%



### **Preventive treatment coverage**

Number of people living with HIV and children who are contacts of cases who were started on preventive treatment for latent TB infection, out of all those eligible (%).

≥ 90%

### **TB affected households facing catastrophic costs**

Number of TB patients and their households that experienced catastrophic costs due to TB, out of all TB patients (%)

0%

### **Uptake of new diagnostics and new drugs**

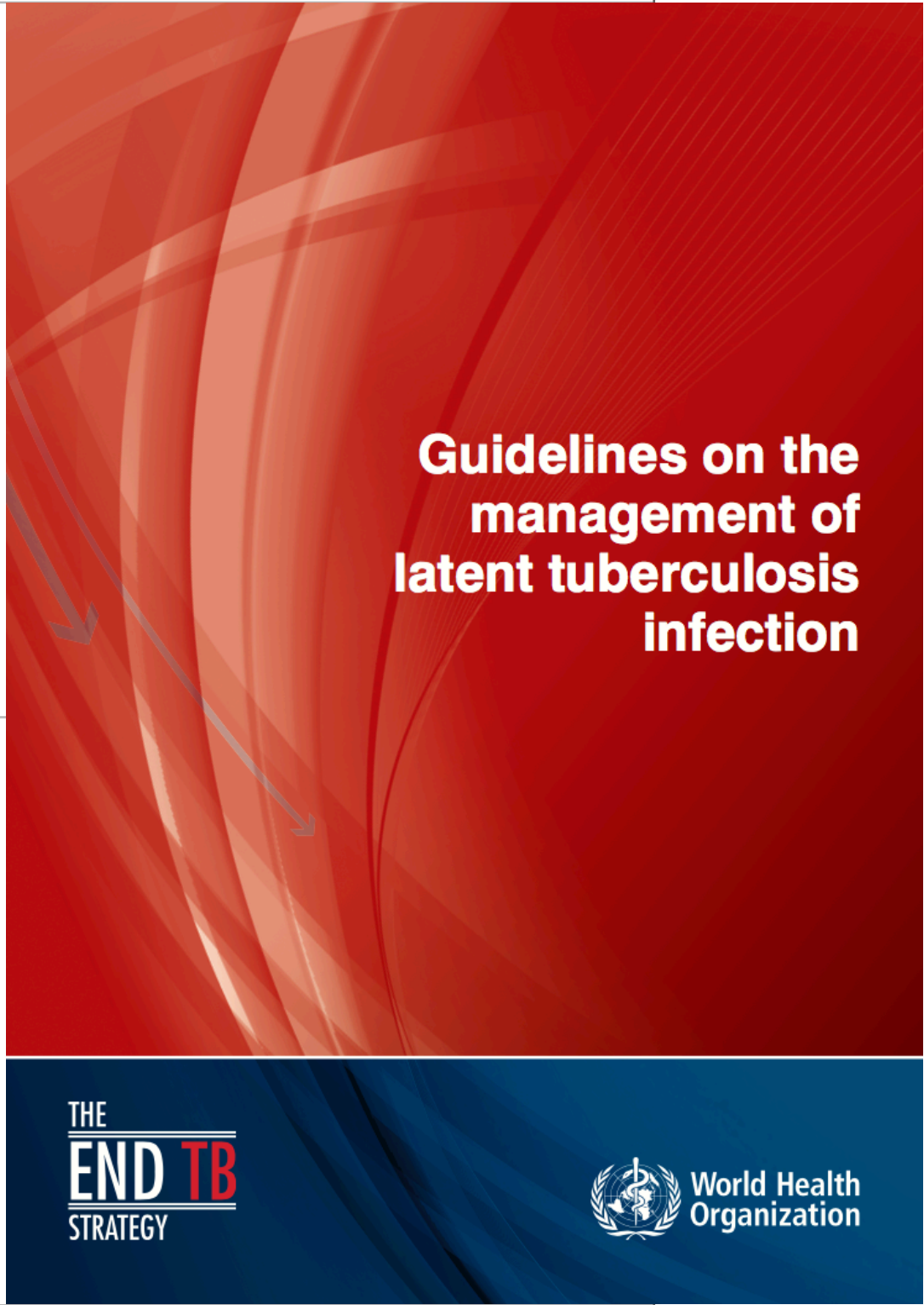
Number of TB patients who were diagnosed using WHO-recommended rapid tests, out of all TB patients (%).

≥ 90%

Number of TB patients who were treated with regimens including new TB drugs, out of those eligible for treatment with such drugs (%).



適用於潛伏結核感染治療建議的國家或區域	發生率低於100/100000 高或中高收入國家
強烈建議系統性篩檢和治療潛伏感染族群	<ul style="list-style-type: none"> <li>• HIV感染</li> <li>• 傳染性結核病的接觸者(不分年齡)</li> <li>• 開始使用腫瘤壞死因子阻斷劑的病人</li> <li>• 腎衰竭透析族群</li> <li>• 預備接受器官或骨髓移植的病人</li> <li>• 矽肺症(或相關暴露)</li> </ul>
符合條件下可考慮系統性篩檢和治療潛伏感染族群	<ul style="list-style-type: none"> <li>• 監獄</li> <li>• 醫療照護工作者</li> <li>• 來自TB高負擔國家的移民</li> <li>• 遊民</li> <li>• 藥癮者</li> </ul>
不建議的對象	<p>不符合上述條件的：</p> <ul style="list-style-type: none"> <li>• 糖尿病</li> <li>• 酒癮</li> <li>• 吸煙</li> <li>• 體重過輕</li> </ul>



# 是否進行無差異的大規模LTBI篩檢和治療？

- 針對每一個個案，權衡LTBI所帶來的好處(減少進展為活動性結核病)，和診斷及治療可能帶來的傷害
- 不建議無差異地進行LTBI篩檢和治療
  - 在低盛行的區域陽性預測值太低
  - 治療可能帶來不良反應
  - 花費過高
  - 無法持續進行LTBI program



# LTBI診斷工具和處方

- 在高收入或中高收入國家，當結核病發生率低於100/100000，使用TST或IGRA均可作為潛伏感染的診斷工具
- 適用的處方包含：
  - 6-month isoniazid
  - 9-month isoniazid
  - 3-month regimen of weekly rifapentine plus isoniazid, or 3–4 months isoniazid plus rifampicin
  - 3–4 months rifampicin



# 執行LTBI需要注意的地方

- 建議臨床密切追蹤MDRTB的接觸者至少兩年。但當接觸者是小於五歲的兒童且治療的益處高於可能的傷害，臨床可以考慮依照指標個案的藥敏試驗結果給予MDRTB接觸者潛伏感染治療
- LTBI治療期間，個案應每個月進行臨床追蹤
- 對於下列這些族群，鼓勵LTBI治療前的基礎值檢驗，如：肝功能（AST, ALT, Bilirubin）
  - 慢性肝臟疾病病史，持續飲酒者，HIV感染，>35歲，懷孕或產後三個月的婦女
- 在推行LTBI治療的國家，建立全國性的藥物抗藥監測系統
- 國家的結核病控制計畫應針對國內的情況，依照高風險族群的特殊需求，LTBI治療的接受度和完成率，來提供彈性的介入措施或誘因

# 台灣高風險族群的潛伏結核感染陽性率，結核病發病率

潛在性疾病	年齡	潛伏感染 (%)	結核病發生率 (LTBI+) (/10 <sup>5</sup> )	結核病發生比例 (LTBI+) (%)	估計族群人數	N N S	N N T
慢性腎衰竭透析	59.3	20.5	478.8		11000/年	313	64.3
糖尿病	56.6	23.8	244.8		1800000	666.7	166.7
血液腫瘤	55.5	14.3	25641		5086/年	24.4	3.5
肺癌	68.6	25.8	700		11713/年	250	62.5
HIV(IVDU)	36.4	11.6		2.4	6000	357	41.7
腫瘤壞死因子阻斷劑使用者(類風濕性關節炎)	54.7	18.6		6.7	5700/年	80.6	14.9

N N S : 需要篩檢多少人找到一位active T B 個案; N N T : 需要治療多少人預防一位active T B 個案



未來的路還很長  
我們一起努力！

