The new National Tuberculosis Control Programme in Israel, a country of high immigration

D. Chemtob,*† A. Leventhal,† Y. Berlowitz,‡ D. Weiler-Ravell*†§
* Department of Tuberculosis and AIDS, † Public Health Services and ‡ Deputy Director General, Ministry of Health, Jerusalem, § Centre for Lung Disease, Clalit Health Services, Haifa, Israel

SUMMARY

SETTING: Israel has implemented a new tuberculosis (TB) control programme in response to the rise in the incidence of tuberculosis due to immigration in the last decade. It complies with World Health Organization guidelines, and also includes specific measures addressing the needs of immigrants. We describe the new programme and compare the outcome of treatment prior and after its realisation.

METHODS: Each component of the new strategy was scrutinised, aspects that did not function well were identified and how we contended with these issues is described. Analysis of outcome of treatment was according to WHO/IUATLD definitions.

RESULTS: Better and clearer organisation of TB treatment in all its aspects, including cultural sensitivity, has been obtained. Compliance improved from less than 27% for successful outcome before the new programme to more than 75% after. In addition to the improvement in completion rates, the universal use of directly observed treatment has ensured enhanced adherence.

CONCLUSION: Using legislative, administrative and budgetary measures, as well as clinical guidelines published by the Ministry of Health, the TB infrastructure in Israel has been successfully reorganised. The decision to do so was not only clinically and organisationally justifiable, it is also economically viable.

KEY WORDS: Israel; treatment policy; tuberculosis epidemiology; DOTS; immigration

BETWEEN 1989 and 1995, the population of Israel, a low tuberculosis (TB) prevalence country, rose from 4.5 to 5.6 million,1 mainly due to mass immigration from high and moderate TB prevalence countries. The absolute number of patients almost quadrupled, from 133 cases in 1989 to 500 in 1991.2 Due to the premature dismantling of the TB treatment infrastructure that occurred during the 1980s,3 as elsewhere,4 there were not enough health-care workers experienced in managing TB.5,6 Patient care lacked expertise, had become disjointed, was not supervised and was further confounded by the cultural gap between health workers and the immigrants.7 In addition, under a new National Health Insurance Law (NHIL), the responsibility for TB shifted from the Ministry of Health (MOH) to four Israeli Health Maintenance Organisations (HMOs), further fragmenting and weakening TB care. Laboratory services were not well defined, and testing for drug susceptibility was not done routinely. Drug supplies were erratic, and second-line drugs to deal with a rising incidence of TB drug resistance were virtually non-existent.

We found that 40% of active TB cases were lost to follow-up before the end of their treatment, and that ‘successful treatment’ was related to the organisation of TB services; larger TB clinics, although far from perfect, had better treatment outcomes.5,6

Consequently, in 1995, a new National Tuberculosis Programme (NTP) was recommended, and was launched in April 1997.8 As in other NTPs,9 the new programme incorporates the five elements of the DOTS strategy recommended by the World Health Organization (WHO):10 1) political commitment; 2) laboratory diagnostic facilities; 3) directly observed treatment (DOT); 4) a consistent drug supply, and 5) a permanent reporting system. It also has four unique features: 1) DOT is universally applied, with absolutely no exceptions and for the full duration of treatment; 2) DOT is administered using a community-based strategy supported by the MOH at central and local level;* 3) unique screening procedures, case investigation and treatment of latent infection are performed routinely, particularly for the new immigrant population, and 4) original research was con-
ducted into the cultural-anthropological needs of the immigrants from Ethiopia and the relevant findings were applied in the NTP.  

We feel that our experience might benefit other low prevalence countries, particularly those where TB is influenced by immigration. We also present data showing the dramatic increase in successful treatment outcomes under DOT that followed the implementation of the new NTP.

METHODS
The content of the new NTP

Political commitment and administrative/budgeting measures

The political will to implement the NTP is evidenced by law, new administrative directives and medical guidelines and the establishment of a National TB Unit (the Department of Tuberculosis and AIDS, DTA), which initiated, coordinated, and implemented all the measures described. Under section 20 of the Public Health Ordinance, TB was declared a 'dangerous infectious disease', empowering the MOH to limit the treatment of tuberculosis to nine designated centres using only DOT.

Four HMOs fund the programme, except for those investments funded by the MOH. They participated in evaluating the cost of the NTP, which came to some US $9668 per ambulatory patient, based on a mix of cases, simple and complicated. Each HMO appointed a senior official responsible for TB and AIDS within the organisation who liaises with the DTA on all issues pertaining to TB and AIDS.

Laboratory diagnostic facilities

Two regional laboratories, one of which is also the National Reference Laboratory, process all specimens from patients followed at the TB centres. Smears and cultures for in-patients are done only in hospital laboratories with a minimum turnover of specimens. Positive isolates from hospital laboratories are sent to the two regional laboratories. Only the National Reference Laboratory performs drug susceptibility testing (DST) for second-line drugs. All isolates in the country are stored here and restriction fragment length polymorphism (RFLP) analysis is performed for epidemiological investigations and for clinical application when needed.

DIRECTLY OBSERVED TREATMENT (DOT)

All ambulatory TB patients are followed at one of the nine TB centres. These are located to enable convenient access for most patients. Wherever possible we avoided TB centres in hospitals, as hospital physicians are often late for out-patient clinics and will often have something more urgent to deal with than TB patients. This is not conducive to compliance with prolonged TB treatment.

Treatment is by DOT for the entire duration of treatment, and not only for the initial 2-month period, as frequently done elsewhere. We use standard regimens such as 2HRZ/4HR, 2EHRZ/4HR, 2SHRZ/4HR, 2EHRZ/4HR, 2EHRZ/4HR, and DOT is usually administered at the primary care community HMO clinic that is most convenient for the patient. Limiting treatment to only a few centres assures a critical mass of TB cases, which in turn allows for the accumulation of the experience and motivation needed for efficiently treating difficult patients, such as multidrug-resistant (MDR) patients, patients requiring custom-tailored DOT with daily or more home visits, and difficult-to-reach patients such as new immigrants and the homeless, drug addicts, alcoholics and other patients with socio-economic or psycho-social problems.

The district health offices (DHOs), answerable to the DTA, supervise the TB centres through regular meetings. In order to be reimbursed by the HMO, the TB centre has to provide 90% fulfilment of the drug regimen on DOT each month. Less than 90% results in repetition of that month’s treatment at the centre’s expense.

The NHIL provides full coverage of treatment of all TB patients for Israeli residents, while the MOH covers uninsured tourists, foreign workers and their families. In the interests of expertise in treatment and to allow concentration of resources, hospitalisation is confined to two wards, one in the north and one near Tel Aviv. These have been equipped with air sterilisation and other measures, in accordance with the guidelines of the Centers for Disease Control and Prevention, to ensure the safety of the staff and of the other patients. Our policy is to reduce hospitalisation of TB patients to a minimum. The main indication for hospitalisation is difficulty in ambulatory care due to severe social problems; medical indications are severity of disease and the need to adjust treatment regimens due to drug reactions or drug resistance. Continuity of care at the time of discharge from hospital to the community is a particularly important aspect of our programme. We try to ensure that all aspects of DOT in the community are arranged so that at discharge the patient finds a medical team in the community familiar with his case, with all medications ready to continue treatment. Discharge from hospital prior to setting up ambulatory DOT is not permitted (Table 1).

Regular drug supplies

Regular drug supplies were problematic at the onset of the NTP. With only about 400–600 new cases of TB a year, the expense of registering new drugs
deterred private importation of anti-tuberculosis medications, particularly of second-line drugs. Except for isoniazid 300 mg (only 50 mg tablets were initially available, but a local company was eventually persuaded to produce a 300 mg tablet), first-line drugs were obtainable, but all the second line drugs, including ethionamide, cycloserine, capreomycin and others, had to be ordered using special procedures. A central supply agency now delivers a regular supply of TB drugs, and the DTA maintains a reserve cache of all drugs to ensure non-interruption of supplies.

**Permanently reporting system**
TB notification to the MOH is mandatory for both physicians and laboratories. Individualised data on TB notification and DST reports are reported at district and national levels. The annual incidence of tuberculosis for the years 1974–2001 is shown in Figure 1. Outcome of treatment reports are aggregated at the district level according to directives issued by the DTA, in accordance with WHO/IUATLD recommendations. A goal of the programme is to have on-line computerised TB data for epidemiological, clinical and laboratory services available for all TB partners.

**Unique features of the programme**
The universal use of DOT for the full period of treatment and the provision of DOT by primary care community clinics without extraordinary resources are unique.

---

**Table 1** Outline of the new Israeli NTP

<table>
<thead>
<tr>
<th>Core (WHO recommendations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political commitment of Ministry of Health: legislating new TB regulations and establishing a dedicated National TB Department in the MOH, with an independent budget.</td>
</tr>
<tr>
<td>Adequate laboratory diagnostic facilities by limiting laboratory involvement mainly to two regional TB laboratories, with adequate facilities.</td>
</tr>
<tr>
<td>Standardised short-course chemotherapy, free of charge, under proper case management conditions, including DOT.</td>
</tr>
<tr>
<td>Consistent drug supplies (centralised purchasing and supply of drugs).</td>
</tr>
<tr>
<td>Permanent reporting system, with supervision and monitoring through District Health Offices of the MOH by the National TB Department. In addition, an on-line computerised TB database will be accessible to clinicians and public health personnel.</td>
</tr>
</tbody>
</table>

**Enhancing features**
Use of existing health care networks with specific additions.
Involvement of the primary health providers (HMOs) in planning, execution, monitoring and ongoing evaluation; consensus on costs.
Treatment under the responsibility of a limited number of regional TB centres (geographical accessibility, critical mass of patients, building a new cadre of TB expertise), and the involvement of the primary health care system for supervised treatment.
Built-in liaison between TB centres and DHO supervisors: a team management approach.
Screening immigrants from endemic areas and treatment of latent infection.
Cultural sensitivity—training immigrant health workers to bridge cultural gaps between immigrants and health professionals.
Regular training programme for clinical and public health personnel.
Incentives for completion of treatment for both patient and TB centre.
Legal sanctions for absconders.
Limitation of hospitalisation to two regional centres.
Built-in ongoing evaluation (both process and outcome).

NTP = National Tuberculosis Programme; MOH = Ministry of Health; DOT = directly observed treatment; HMO = Health Maintenance Organisation; DHO = District Health Office.

---

**Figure 1** Incidence of tuberculosis in Israel, 1974–2001 (per 100 000 population).
Screening procedures, contact investigation and treatment of latent infection

We follow accepted guidelines regarding contact investigation, case finding and treatment of latent infection. Immigrants from Ethiopia are screened on arrival by skin testing and radiography when appropriate. Among this high-risk population, children up to 5 years of age with negative skin tests are vaccinated with BCG, and those up to the age of 18 who test positive receive DOT for latent infection. Many adults with positive skin tests also get their medication under direct observation. This is possible because new immigrants often stay together in absorption centres for several months before relocation to a permanent home. Since 1991 we have emphasised human immunodeficiency virus (HIV) co-morbidity among new immigrants from sub-Saharan Africa, through HIV and TB active case finding.

Cultural sensitivity: an important element for TB control in migrant populations

Israel is a country of immigration, as illustrated in Figure 2. Some 85% of TB cases are foreign-born, mainly Israeli citizens from the Former Soviet Union (FSU) and from Ethiopia. Addressing the difference between Ethiopian and Israeli lifestyles, we used anthropological tools to evaluate the needs of Ethiopian immigrants and health professionals dealing with them, and to train Ethiopian health workers to assist the DHOs and the TB clinics in bridging the culture gap with the immigrants, as described in detail elsewhere.

Methods for outcome of treatment evaluation

We compare treatment outcome before and after implementation of the new NTP. In 1998, new definitions on treatment outcome were adopted by a working group of the WHO and the European Region of the IUATLD, analysing treatment outcome by annual cohort. In order to be able to compare the two periods (before vs. after the new NTP), we re-analysed treatment outcome according to the outcome classification recommended by the working group. For data for the period January 1990–September 1992, we used ‘a proxy’ outcome analysis based on the main categories defined by the working group. We defined two mutually exclusive groups, ‘new cases’ and ‘re-treatment cases’; the analysis was performed in both groups according to three mutually exclusive categories: ‘successful outcome’, ‘death’, and ‘potentially unsatisfactory outcome’. ‘Successful outcome’ was applied according to the WHO/IUATLD definition (within 12 months after the start of treatment). All the other notified cases, with the exception of those known to have died during treatment, were defined as ‘potentially unsatisfactory outcome’, irrespective of whether any follow-up information was available. Since the cohort of 1999, our outcome analysis is based exactly on the WHO/IUATLD definition, in which seven mutually exclusive categories are used for culture-positive pulmonary tuberculosis cases.
TB cases: cured, completed, died, failed, defaulted, transferred and not evaluated.

RESULTS
The new TB infrastructure

Political commitment and administrative/budgeting measures
Most of the proposed changes described were implemented according to the new NTP regulations. As a result, better and clearer organisation of TB treatment in almost all the aspects has been achieved.

In this section, we address those aspects of the programme that did not function in a satisfactory manner, and describe how we contended with these issues.

Laboratory diagnostic facilities
Centralised bacteriology, in the interests of efficiency, centralisation of data and the possibility of introducing new and expensive technologies to serve the entire health community, has proved difficult to implement. Hospitals conduct their own TB diagnostic procedures and do not always transfer isolates to the central laboratories. This causes delays in obtaining DST results for second-line drugs, and sometimes delays the results of DST for first-line drugs. We modified the prior recommendations and used financial incentives to improve compliance: we requested the hospital laboratories to forward isolates promptly to the regional TB laboratories, after identification of Mycobacterium tuberculosis complex, and not to do further bacteriological testing. We also asked the regional laboratories to invoice the TB centres directly. As a result we shifted all the costs for strain identification and DST to the TB centres from the hospital laboratory that first diagnosed the case, as an incentive to limit inhouse laboratory testing to a minimum.

DOT
DOT worked very well for most of the TB cases, in particular for those with no or a moderate level of social difficulties. However, when analysing all TB patients under treatment in 1999, some 12% were defined as complex TB cases, mostly for social reasons, and their compliance was poor, despite all the support they received. We are in the process of addressing this problem by adding a network of social workers to the staff of the TB centres, to deal specifically with complex TB patients.

Regular drug supplies
Full cooperation with this aspect of the NTP has not been forthcoming from the HMO that operates three of the nine TB centres. This has sometimes caused delays in drug supplies for these centres, but they have always been able to obtain drugs from the MOH supplier on request.

Permanent reporting system and process evaluation
Linking TB notification and monthly evaluation of the DOT by the DHO to reimbursement of the TB centre by the HMO has been an incentive for good notification and an important tool for supervision of the TB centres.

Ongoing process evaluation has already enabled us to detect and correct some of the weaknesses of the new NTP. This overall supervision will be facilitated by the on-line computerisation of the medical-epidemiological file between all TB partners.

TB incidence and outcome of treatment results
Since the late 1980s, TB incidence has risen from 3.5 cases per 100 000 population in 1989, before the start of mass immigration from the FSU, to some 11/100 000 in 1998 (Figure 1). This rise is generally concomitant with immigration from endemic countries.

In recent years, some 80–85% of TB cases are foreign-born, mostly naturalised Israeli citizens from Ethiopia or from the FSU. In Figure 2, we can see how, during the last decade, incidence is related to the country of origin: Ethiopia or the FSU. In 1991, some 54% of new TB cases were from Ethiopia; as the decade progressed, more cases came from the FSU. There is also a rise in the last years in TB diagnosed among non-Israelis—foreign workers or tourists; around 7–9% of total TB cases.

The cohort analysis of outcome of treatment for the years 1999–2000 of culture-positive pulmonary TB cases is seen in Table 2. There is a real improvement in treatment outcome, from less than 27% before the new NTP to more than 75% of ‘cured’ or ‘completed’ cases after. In addition, respectively 2.4% and 6.9% of the outcome were among ‘transferred cases’ in 1999 and 2000, and respectively 4.3% and 1.2% were ‘failed cases’. Lastly, 10% of TB cases died, compared to some 5% prior to the new NTP. When further analysing the cause of death, not all cases died due to TB but rather with TB (18% and 25% of deaths in 1999 and 2000, respectively). Concerning deaths due to TB, diagnosis was made less than 1 week before death in 10% of cases, and after death in 25% and 12% of cases in respectively 1999 and 2000.

Reported completion of treatment vs. fully supervised treatment
In addition to the improvement in successful outcome of treatment since the new NTP, another major improvement is fully supervised treatment. Under the new programme with universal DOT, treatment completion includes adherence, whereas before completion did not ensure adherence.

Cost-effectiveness analysis
Cost-effectiveness analysis is beyond the scope of this paper. However, before starting the new NTP, a cost-
effectiveness analysis was done\textsuperscript{13} and it was estimated that despite the additional costs for infrastructure, Israel would save between US $3.46 and $4.20 million in resources if 600 new TB cases needed treatment annually.

**DISCUSSION**

The rationale for a new NTP in a low prevalence country was the concern that with the rise in the case-load and the depletion of anti-tuberculosis resources, events might overtake Israel as they did in New York City.\textsuperscript{16} Israel provides full medical coverage to all residents using a patient approach, as in other Bismarckian Health Systems.\textsuperscript{28} However, contact investigation and follow-up of treatment adherence, a major public health problem,\textsuperscript{4,9,10,29} is best dealt with by a community approach,\textsuperscript{30} and by a single entity, not by four different HMOs.

Our public health service is community-oriented, with a DHO for each region. We used this system and the network of primary care community clinics run by the HMOs to construct a new entity in TB control and care. This incorporates the principal of vertical and horizontal structures in implementing a health programme. The vertical element runs from the DTA through the DHO and regional TB centres, and ends with reimbursement of the TB centres by the HMOs for each individual treated in the programme. We had to overcome the resistance of the HMOs to take on activities related to TB, which they perceived as public health measures. Working on the problem together with them and allowing transparency of all financial aspects of the programme finally overcame this resistance.

The new NTP has rejuvenated clinical expertise in the field of TB management. This has benefited clinical and public health nurses and physicians in both fields, and the laboratory services: without centralised laboratory services there would have been great difficulty in mastering modern mycobacteriology,\textsuperscript{14} including rapid, accurate susceptibility testing and molecular biology, in a satisfactory manner.\textsuperscript{15} It has also ensured close cooperation between clinicians and laboratory personnel.

The horizontal element of the programme is in the MOH and in the clinical part of the NTP. In the MOH, the DHOs interact with each other and with the TB centres in a horizontal manner. On another level, both the TB centres and the DHOs interact with the community clinics in a similar manner. Likewise, the two regional laboratories interact in a horizontal fashion with each other and with the TB centres. Using the existing infrastructure of primary health care clinics, run by the different HMOs but united by the conceptual and practical acceptance of the NTP, has led to considerable savings,\textsuperscript{13} and easy access for the patients treated in the community with DOTS.

The reimbursement of the centres is paid out of the global budget of each HMO. Using a flat rate for treatment has provided an incentive for the TB centres to complete treatment expeditiously. This is a classic case of the ‘money follows the patient’ principle of health economics, whereby the more patients and contacts the TB centre treats, and treats well, the more efficient the operation becomes.

The concept of DOTS for all, not on a basis of patients perceived (often erroneously) to be difficult cases, but across the board, has significantly improved the outcome of treatment (Table 2). The actual figures may be better because some of the ‘defaulted’ and ‘transferred’ cases notified in an aggregate manner are quite likely ‘cured’ or ‘completed cases’. At present,

---

**Table 2** Trends in treatment outcome for pulmonary culture-positive cases only, before and after implementation of the new NTP, according to WHO/IUATLD definitions\textsuperscript{19} (and their proxy for the period January 1990 to September 1992)

<table>
<thead>
<tr>
<th>Period</th>
<th>Pulmonary culture-positive cases</th>
<th>Outcome of treatment %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n )</td>
<td>Died</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24.5</td>
</tr>
<tr>
<td>January 1990–September 1992</td>
<td>New cases</td>
<td>196</td>
</tr>
<tr>
<td></td>
<td>Retreated cases</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>206</td>
</tr>
<tr>
<td>1999</td>
<td>New cases</td>
<td>289</td>
</tr>
<tr>
<td></td>
<td>Retreated cases</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>325</td>
</tr>
<tr>
<td>2000</td>
<td>New cases</td>
<td>320</td>
</tr>
<tr>
<td></td>
<td>Retreated cases</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>346</td>
</tr>
</tbody>
</table>
we do not have individualised data for outcome of treatment at a central level to enable us to confirm this. Whether the increase in death rates after the implementation of the new programme is a true phenomenon or due to an increase in the awareness of TB remains to be seen.

The use of DOTS elsewhere is increasing (21 countries implemented DOTS in 2000, bringing the total to 148/210), but it is still a controversial issue, particularly in low-incidence countries. In the WHO European Region only 17 countries (out of 51) are using DOTS nationwide (out of 95 countries globally). Of the 23 countries in the West WHO European Region (WWER), only seven countries have adopted DOTS fully (Andorra, Austria, Malta, the Netherlands, Norway and Portugal), and Italy has applied DOTS in an expansion phase.

In the WWER, TB incidence is low (an average of 12.6/100 000 in 1999), consistent with the finding of a reduction or stabilisation in TB incidence in Western Europe since the late 1980s. This analysis does not reflect the impact of the immigrating population in Western Europe. In the WWER, 27% of notified cases in 1999 were of foreign origin; in nine countries this figure was more than 50%; the highest rate, 86.2%, was in Israel.

The last WHO global report includes outcome of treatment for 1999 according to WHO/IUATLD definitions for only seven countries (Andorra, Austria, Italy, Malta, the Netherlands, Norway and Portugal). In this paper, we present data on treatment outcome for Israel for 1999–2000. The successful outcome for pulmonary culture-positive cases in Israel is similar to that reported for 1999 among smear-positive cases by the Netherlands, Norway and Portugal (all implement full coverage of DOTS) and the USA. Nevertheless, it remains to be seen whether treatment outcome in low incidence countries that are not using DOTS, especially those where the rate of TB among foreign born is high, will be worse than in similar countries that have adopted this WHO-recommended strategy.

DOTS alone, however, is probably not the only reason for the improvements in treatment outcome in Israel. As described elsewhere, other complementary factors (integration of vertical and horizontal structures, cultural sensitivity, staff training and motivation, incentives, defaulter tracing) are important elements of the programme. Our use of existing resources in the community rather than additional expenditure for DOTS, and our approach to Ethiopian immigrants, are examples of additional elements in the programme that might benefit other low TB prevalence countries, particularly those where TB is influenced by immigration.

Acknowledgements

We gratefully acknowledge the health care professionals who are implementing this new TB programme with so much energy and devotion, on behalf of their TB patients and families. Not to be forgotten is the role of the members of the Advisory Committee on TB to the Ministry of Health, for their contribution to the planning of this programme. Finally, we gratefully acknowledge the role of Professor G Barbash, then Director General of the MOH, whose intervention made the programme a reality.

Members of the initial MOH TB Advisory Committee: Baum G, Chemtob D, Efrat M, Gabbay D, Lavy A, Lidi M, Marcus J, Rishpon S, Schwarz T, Wartski S, Weiler-Ravell D (Chairman). The opinions expressed in this article are those of the authors and do not purport to represent the opinions of the agencies with which they are associated.

Part of this paper was presented in abstract form in Paris at the Conference on Global Lung Health and the 1997 Annual Meeting of the IUATLD in Paris.

References

14 Mates A, Weiler-Ravell D, Chemtob D. Regulation of laboratory testing for Mycobacterium tuberculosis in a new National
Israel’s National Tuberculosis Control Programme


MÉTHODES: Nous examinons en détail chaque composante de la nouvelle stratégie et insistons sur les aspects qui ne fonctionnaient pas correctement, ainsi que sur la manière dont nous avons fait face à ces problèmes. L’analyse du résultat du traitement a été conduite selon les définitions de l’OMS/UICTMR.

RÉSULTATS: Nous avons clarifié et amélioré l’organisa-
tion du traitement de la tuberculose dans tous ses aspects, y compris ceux ayant trait aux différences culturelles. L’adhésion s’est améliorée: de 27% de « résultats favorables » avant le nouveau programme a plus de 75% après sa mise en place. Outre l’amélioration du taux d’achèvement du traitement, l’utilisation généralisée du DOT a assuré un renforcement de l’adhésion.

CONCLUSION: Grâce à des mesures législatives, administra-
tives et budgétaires, ainsi qu’aux directives cliniques publiées par le Ministère de la Santé, l’infrastructure TB en Israël a été réorganisée avec succès. L’application de ce programme s’est avérée justifiée non seulement du point de vue clinique et organisationnel, mais aussi sur le plan économique.

RESUMEN

MARCO DE REFERENCIA: Israel ha implementado un nuevo programa de control de la tuberculosis (TB), como consecuencia de un aumento de la incidencia de TB, debido a la inmigración en la última década. Este programa sigue las directrices de la OMS y además incluye medidas específicas en relación con las necesidades de los inmigrantes. Se describe el nuevo programa y se compara el resultado del tratamiento antes y después de su implementación.

MÉTODO: Se examinó a fondo cada componente de la nueva estrategia y se puso énfasis en los aspectos que no funcionaban correctamente y en la manera como se habían enfrentado estos problemas. El análisis de los resultados del tratamiento se efectuó según las definiciones de la OMS y de la UICTER.

RESULTADOS: Se obtuvo una mejor y más clara organización del tratamiento de la TB en todos sus aspectos,
incluyendo aquellos relacionados con las diferencias culturales. El cumplimiento del tratamiento mejoró de menos de 27% de ‘resultados exitosos’ antes del nuevo programa a más de 75% después de su implementación. Además del mejoramiento de las tasas de cumplimiento, el uso generalizado del DOT ha asegurado un refuerzo de la adhesión.

CONCLUSIÓN: La infraestructura de la TB en Israel ha sido reorganizada con éxito poniendo en práctica medidas legislativas, administrativas y presupuestarias, así como directrices clínicas publicadas por el Ministerio de la Salud. La aplicación de este programa se justificaba no solamente desde el punto de vista clínico y organizativo, sino que también fue económicamente viable.