

REVIEW OF TUBERCULOSIS CONTROL IN ASIAM IN 2002

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1. The burden of Tuberculosis in Asiam
2. Asiam is among the 23 countries in the world with a high burden of TB. It is estimated that 64% of the population is infected with M.tuberculosis. Currently the TB incidence rate of all forms of TB is estimated at 540/100,000 population and that of smear-positive pulmonary TB at 241/100,000 population. It is estimated that annually 90 per 100,000 Asiamns die of TB.
3. Related to the spread of HIV the HIV-prevalence among TB patients increased steeply from 2.5% in 1995 to 7.9% in 1999. It is estimated that due to the HIV-epidemic and the population increase the number of TB cases will double in the next five years.
4. The burden of TB of Asiam is the highest in the region and comparable to the size of the TB problem in HIV affected subSaharan African countries with a high prevalence of TB. The TB burden has a serious impact on the socio-economic development of Asiam as TB predominantly affects young people in the productive years of life, mothers of families, and in particular the poor. As a chronic disease with a high mortality TB is a main cause of poverty itself by incurring high expenditures on families affected.
5. The NTP of Asiam
6. The National Tuberculosis Control Program (NTP) has been established in 1980. From 1980 to 1993 treatment strategies of long duration were applied. In 1994 the government adopted the DOTS strategy. In 1995 the National Committee for TB control was established. The committee is headed by the Prime Minister, which clearly demonstrates the political commitment of the government.
7. Before the implementation of the Health Sector Reform TB diagnosis and treatment was centralised in 21 provincial hospitals and 121 district hopspitals. Following the implementation of the HSR the NTP was reorganised based on the newly created 73 health districts (HD).
8. In 1999 the program piloted decentralisation of DOTS to the health center level in 9 HC's in 7 HD's in 3 provinces. The pilots covered a population of 108,000.
9. Based on the success of the pilots in the NTP during 2000 and 2001 expanded DOTS to 298 HC's in 27 HD's, i.e. 47% of the 632 functional HC's in the country.
10. The NTP plans to expand DOTS in 2002 to 242 HC's in 24 more HD's as well as in 30 additional HC's in the 27 HD's where the program was started in 2001.
11. When the NTP achieves its objective by the end of 2002 a total of 570 HC's in 51 HD's will be covered, i.e. 90% of the functional HC's in the country.

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12. At the National level a team of 15 staff is responsible for the implementation of the program. The central team is directly involved in the introduction of DOTS at the HC level in the newly created HD's.
13. At provincial level TB supervisors are responsible for supervision of the HD's and HD TB supervisors of supervision of the HC's, which provide DOTS.
14. Diagnosis by direct microscopy is provided by the TB units in 66 referral hospitals and 75 district hospitals. X-ray facilities are only available in specialised hospitals in the main cities.

15. Results of case-finding and treatment

16. During the eighties the case-notification rate per 100,000 of smear-positive new and relapse cases fluctuated around 95. After the introduction of the DOTS strategy in 1994 the rate gradually increased from about 120 per 100,000 to 130 per 100,000 in 1999 and 126,000 in 2000.
17. The notification rates of smear-positive cases per 100,000 population in 1999 vary considerably by province. One third of the provinces report rates over 150. In one third of the provinces the rate is 85 or lower.
18. In 1999 4% of cases notified had smear-negative pulmonary TB and 10% extra-pulmonary TB (EPTB). The proportion of suspects with positive smear results in Asiam is very high, i.e. 33.6% in 2000. Quality control of smears show that 5.5% of smears by routine laboratories were false positive and 5.3% false negative.
19. During the period 1996-1999 the NTP started 49,427 new smear-positive cases on DOTS. The overall cure-rate achieved during this period is 90%, i.e. well above the WHO target of 85%. During the same period 2,681 smear-positive cases were treated with the retreatment regimen. The cure-rate in this group is 88%. The fatality rate in new cases is low, i.e. 2% to 3%. The default rate is low as well, i.e. 2% to 3%.
20. In 1999 the first round National Drug Resistance Surveillance (NDRS) was carried out. The results show total resistance of 9.8% in new cases and no MDR resistance. Total resistance in previously treated cases is 16.5% and 3.1% MDR.
21. The size and trend of the HIV epidemic and the TB/HIV profile
22. Since the first case of the epidemic in 1991, it is estimated that out of the population of 11 million Asiam now has 169,000 people living with HIV/AIDS. Although the estimated prevalence among adults aged 15-49 has shown a steady decline from 3.9% in 1997 to 2.8% in 2001, Asiam is still the worst affected country in the region.

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23. Among the general population, prevalence levels are about 50% higher in men than in women. The infection prevalence among pregnant women tested in ANC clinics was 2.3% in 2000. Notable perinatal or mother to child transmission has been reported and higher levels of infection are suspected. In 2000 a household survey conducted in 5 province found that the prevalence rate among males was 1.8% and among females 1.2%. On the whole, infection rates are much higher in urban than in rural areas.
24. Co-infection with HIV increases the likelihood that a person with TB infection will progress to active TB disease from 5-10% over the person's lifetime to 5-10% per year. Current estimates are that nearly two-thirds of the population of Asiam is infected with TB, and approximately 170,000 persons in the country are infected with HIV.
25. Additionally, the HIV seroprevalence among TB patients increased from 2.5% in 1995 to 8.9% in 2000. Given the considerable overlap of populations at risk for TB and HIV infection, the growing number of TB and HIV co-infected persons in the country will continue to increase the country's TB case burden substantially over the next 5-10 years.
26. The NTP priorities of rapid DOTS expansion and increased TB case-finding efforts, the effects of HIV and the increase of the population of 2.5% per year, could result in greater than 50,000 additional TB cases during the next 10 years above the existing case burden the NTP currently handles.
27. AIDS control policy and strategy
28. In 1999 the Government established the National AIDS Council to develop a broad multi-sector response to the growing HIV epidemic. The NAC is responsible for co-ordination of an expanded approach to the epidemic across all sectors, is chaired by the Minister of Health, and reports directly to the Prime Minister. It operates through a Central Committee made up of the Secretaries of State from twelve line ministries and has Provincial AIDS Committees, chaired by provincial governors, which set policy and co-ordinate the national response at the provincial level according to the national strategic framework.
29. In the *National Strategic Framework for a Comprehensive and Multi-sectoral Response to HIV/AIDS*, the NAC-established goals for the national response to the HIV epidemic are:
 - a. To reduce new HIV infections
 - b. To provide care and support to those people living with and affected by HIV/AIDS
 - c. To alleviate the socio-economic and human impact of AIDS on the individual, the family, community and society.
30. Regarding its potential role in helping to address the need for an integrated response to issues of TB/HIV, the NAC has set priorities to strengthen and expand effective actions for care and support proven to be effective and to pilot "new" interventions as part of its core strategies. The objectives for this strategy are:

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- a. To ensure that appropriate care and support services are strengthened and available to all people living with HIV/AIDS and their families
 - b. To ensure the strengthening and expansion of existing care and support programs (including home-based care, institutional care, and treatment for opportunistic infections such as TB)
 - c. To ensure community support for children and adolescents affected by HIV/AIDS.
31. With the continued support of the highest levels of government and consistent funding, the NAC could play a key role in co-ordinating and integrating services for TB and HIV/AIDS at the provincial level.
32. The MOH is committed to addressing the growing issues of TB/HIV by developing an integrated approach to providing HIV/AIDS and TB prevention and care services. This commitment is demonstrated in both the HIV/AIDS and the national TB programs, respectively. The National AIDS Program of the MOH is responsible for the health sector response to HIV/AIDS and has outlined the following priorities in the *Strategic Plan for HIV/AIDS Prevention and Care in Asiam*:
- Integrate vertical programs including HIV/AIDS and TB
 - Ensure that drugs for opportunistic infections (like TB) are available for HIV/AIDS care services
 - Disseminate national guidelines and protocols on HIV/AIDS management throughout the country (including the management of TB), and ensure that all health workers dealing with HIV/AIDS in the public sector are trained in the use of the guidelines
 - Support networks and associations of persons living with AIDS to improve utilisation of AIDS care services
 - Conduct HIV prevalence surveillance among TB patients annually as part of the ongoing HIV Sentinel Surveillance (HSS) activity
33. Likewise, the National Tuberculosis Control Program (NTP) of the MOH outlined the following priorities in the *National Health Strategic Plan for Tuberculosis Control*:
- Develop, in collaboration with the National AIDS Program, specific strategies for addressing TB/HIV issues, and to formulate and implement action plan to reflect these strategies
 - Determine the circumstances under which chemoprophylaxis for TB will be provided to some target groups such as people living with HIV/AIDS
 - Mobilise resources for the management of TB/HIV patients
 - Promote NGO and community involvement in certain aspects of TB control
 - To collaborate with NAP to organize the HIV sero-prevalence survey among TB patients
 - Organize operational research such as preventive therapy for HIV infected people, clinical studies, tuberculosis mortality survey, etc.
34. To initiate the process of co-ordinating activities of the two vertical programs for TB/HIV, the MoH formed a national working group in 2001 comprised of high-level staff of the NTP and NAP to develop the framework and action plan.

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However, to date, the framework and strategic plan for an integrated approach to TB/HIV have not been developed.

35. Ultimately, the ability of the MOH through the NTP and NAP to address the added morbidity and mortality from TB among HIV/AIDS patients will depend strongly on integrated service delivery at the district referral hospitals, at health centres, through health centre outreach to villages, and through home-based care programs. Expanding partnership with NGO's currently supporting and strengthening health services at these levels will be essential to this process.

36. Health Sector Development

37. Through health sector development, the MoH aims "to improve the health of the Asian people and contribute to their productivity and social development through increased access and utilization of essential health services, whether the public or private sector delivers those services".

38. Health Sector Reform provides the criteria used to locate public health facilities within the district-based health care system. These criteria indicate that a Health Center (HC) should be within 10km or two hour's walk to cover an optimal population of 10,000. Each HC is under a Health District (HD) and linked to a Referral Hospital (RH) that covers between 100,000 and 200,000 people. The service package that has been defined for HC's is the Minimum Package of Care (MPC).

39. Health Sector Reform and the National Tuberculosis Programme

40. The main approach of the NTP to date has been TB treatment through hospitalisation. With broader HSR being undertaken by the MoH, the NTP implemented a pilot study in 2000 to examine the feasibility and effectiveness of decentralized DOTS delivery at the HC level. The study was conducted in 9 HC's (4 with microscopy facilities and 5 without microscopy) in 7 HD's.

41. During the study, more than 90% of cases from the HC catchments successfully received DOT through the HC's. It was also shown that a case detection rate of more than 70% could be achieved (current case detection is <50%) and that DOTS implementation through HC's improved the access of women and the poor to TB services. An added benefit was that community confidence in the HC's was strengthened and health service utilization was improved. A potential disadvantage was the possibility for a decline in the quality of sputum smear microscopy. After the successful results of this pilot study, the NTP has committed to nationwide implementation of DOTS through HC's. It is planned to establish model districts with effective technical backup from TB Units and to expand DOTS to more than 250 HC's in 2002.

42. This process will be undertaken in collaboration with NGO's and one NGO has already undertaken discussions with the NTP to provide support in HC's of five

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provinces for DOTS training, implementation, supervision, logistics, transportation, Drug control and IEC.

43. The work of NGO's will require close coordination in the future to ensure uniform DOTS coverage throughout the country and to avoid a "piecemeal" approach. This collaboration could be facilitated through national workshops of NGO's. In addition, partner agencies could also provide increased direct programme support to provincial level staff for DOTS expansion.

44. Baseline Demand Surveys have shown that private health providers, especially private pharmacies, are often the first choice for people when ill, even for the poor. Hence, there is a need to also further investigate the extent and nature of tuberculosis treatment in the private sector, particularly in urban areas, and to increase the collaboration of the private sector with the NTP in accordance with NTP policies and strategies.

45. A new National Health Sector Strategy is currently under development and it will be important for the NTP to take an active role in this planning mechanism and integrate with other major health programs, including the NAP, in the health sector development process.

46. Health Sector Financing

47. Under budget reform, the Government health budget expenditure has increased from USD 1 per capita in 1998 to USD 2.10 per capita in 2000 and it is aimed to increase this to USD 4.40 per capita by 2003. A major obstacle to the delivery of public health services is the under-funded health sector. Household spending on health care is approximately USD 29 per year, which is 11% of the GDP and one of the highest household contributions to health in the world. External donors contribute about USD 5 per capita per year to health in Asiam.

48. Collaborating Partners of the Ministry of Health

49. The MOH and many donors recognise that the health problems of Asiam cannot be addressed successfully if all parties and programs work in isolation. Existing donor co-ordinating mechanisms, which have been highly successful, concentrate on programmatic issues, but do not deal adequately with the co-ordination of financial resources. As an initial measure to improve donor co-ordination, the MoH aims to use of the Sector Wide Approach (SWAp) system to promote broad government and donor agreement on and commitment to a common set of sector goals and strategies. Donors in the Health Sector Reform include the World Bank, DFID, the Dutch Government, NORAD, UNDP, UNFPA and WHO. AusAID, GTZ, ADB and Belgian Co-operation have shown interest in future support to the health sector in Asiam. UNICEF has also supported health sector strategy development.

50. WHO and Health Sector Reform

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51. WHO has been one of the leading partners of the MoH in the health sector reform process and provided USD 753,000 funding from 1998 to 2001. The HSR Project of the MoH aimed to reduce poverty in Asiam through the development of quality basic health services, particularly in rural areas.

52. SWOT analysis

53. A Strengths, Weaknesses, Opportunities and Threats analysis of current NTP achievements and operations in implementing the policy package and key NTP features shows the following results:

54. Strengths

55. DOTS package

- The strong political commitment to TB control demonstrated by the adoption of the DOTS strategy in 1994 and the establishment in 1995 of the National Committee for TB control, headed by the Prime Minister.
- The Joint Health Sector Review identified that health services should give priority to key public health services
- TB is included in the MPC at the HC level
- A network of 142 laboratories for direct microscopy for AFB is in place in all HD's serving on average 80,000 population per laboratory.
- In 2000 and 2001 DOTS was expanded to nearly 50% of the MPC implementing HC's in the country
- DOTS is provided to all smear-positive cases diagnosed and the cure-rate achieved is 90%, well above the WHO target of 85%.
- Anti-TB Drugs are available without interruptions in all DOTS implementing HC's and hospitals.
- A HMIS system is in place based on laboratory registers in the diagnostic units, treatment registers in the DOTS units and HD TB registers at the HD level.
- The level of primary MDR TB in Asiam is negligible.

56. Program management and planning

- The program has a Central Unit and clear technical guidelines
- Policies and Strategies and a Strategic Plan 2001-2005 have been developed
- A training program is implemented. In 2000 more than 600 HC, HD, provincial and central staffs were trained in training courses at all levels and abroad.
- A program for supervision is implemented achieving 78% of the target in 2000.
- A Inter-Agency Co-ordinating Committee was established in 2001

57. Weaknesses

58. DOTS package

- The quality of the laboratory network is inadequate in on third of laboratories and moderate in one other third.

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- A high false-positivity rate of 5,3% of diagnostic smears is observed
- The proportion of smear-positive suspects is well above the levels observed in other well established DOTS programs in high TB prevalence countries
- For various reasons a considerable proportion of patients are diagnosed in an advanced state of disease. Contributing to this are lack of awareness about TB, current health seeking behaviour practices, low priority for using public health facilities and access to health services.
- In 2000, only 55% of the people of Asiam had geographical access to primary level health facilities as defined in the Health Sector Reform plan, meaning they live within a 10 km radius or two-hour walk of a health centre. So by the end of 2001 just about a quarter of the population had access to ambulatory DOTS at the HC level. The NTP has planned to increase DOTS expansion to 90% of MPC implementing HC's by the end of 2000. Still then ambulatory DOTS will be in reach of only 50% of the population
- The NTP and the health services lack facilities for diagnosis of smear-negative TB. So the proportion of smear-negative TB cases started on treatment is too low.

59. Program management and planning

- The capacity for planning and management of NTP staff at all levels is not yet well developed.
- Financial flows for TB control activities are complicated using different systems depending on the source of funding. In particular World Bank funds for TB activities have been difficult to access resulting in considerable under spending
- Though a Strategic Plan has been developed the NTP as yet lacks a comprehensive development plan with measurable programmatic objectives, related activities, inputs, expected outcomes, time frame and budget showing the different sources of income per collaborating partner and activity group.
- Current planning is too centralised taking insufficiently into account the opportunity to involve the PHD in planning and implementing DOTS at the HD level. Though TB activities are included in the MPC co-ordinated planning of TB control as part of the HD and provincial health plans has still to be developed.
- Current external support to the NTP relies mainly on one donor. It is as yet not clear how full financing of the 2001-2005 plan will be secured.
- The Joint Health Sector Review concluded that National programs though mostly effective, are poorly co-ordinated and integrated with other MoH functions. The review recommends strengthening the involvement of national program staff and provinces in policy and strategy health planning.

60. Opportunities

61. DOTS package

- Opportunities to improve the quality of the laboratory network exist in a thorough assessment of factors underlying the high false positivity rate and high rate of smear-positive suspects. There is no need to create additional microscopy centres as the current coverage is in accordance with IUATLD and WHO recommendations.

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- DOTS coverage could be extended further into the community by introducing community based DOTS delivery systems. In view of the excellent collaboration of the MoH and a range of NGO's involved in health care delivery and community based health initiatives the NTP has an opportunity to develop such approaches in close collaboration with the NGO sector.
- The existence of community health committees that are functioning well in some 50% of the HD's offers another opportunity to decentralise DOTS further into the community.

62. Programme management and planning

- The new Sector Strategy of the MoH aims at strengthening co-ordination with the Disease Programs. The process of developing the Strategy offers an excellent opportunity to the NTP to integrate core planning and management activities for TB control in the overall Health Strategy.
- The NTP and MoH have established strong internal and external partnerships for TB control. In particular the WPRO Stop TB Project and the TBCTA offer new opportunities for further development of the program in particular as regards TA and planning and management.
- The emerging collaboration with NAP offers an opportunity to develop and implement a policy and strategy for care and support to HIV/TB cases and PLWHA's.

63. Threats

- The main threat to TB control is the emerging HIV epidemic. It is estimated that till 2005 the annual number of notifications might double as a result of the influence of HIV, the increase of the population and the effect of program expansion.
- A major challenge to the NTP is to maintain a high cure rate while decentralising DOTS while the number of cases will increase
- Sustainability of program funding for the period 2001-2005 needs to be secured as a matter of priority.
- The quality of TB diagnosis and treatment by private health providers is uncontrolled and a potential risk in view of the development of MDR
- The introduction of user fees may have a negative influence on early reporting and diagnosis of TB in particular among the poor
- The relative capacity and skills of health staff and the low wages may affect the quality of DOTS due to lack of interest and motivation
- The need to provide incentives and additional funding to HD's to ensure that DOTS is well delivered.
- The missed opportunity to actively engage in the Health Sector Strategy development process.