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**World Health
Organization**

**REPORT ON THE MEETING
ON POST-ENDEMIC
SURVEILLANCE FOR
BLINDING TRACHOMA**

World Health Organization,
Geneva, 4 - 5 November 2008

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Report on the Meeting on post-endemic Surveillance for Blinding Trachoma

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Executive Summary

Consensus is reached on the following points:

1. Countries should commence planning as early as possible for trachoma post- intervention surveillance as part of their blinding trachoma elimination plan, taking into account existing national surveillance systems. WHO should provide guidance by the mean of issue guidelines for the establishment and management of such surveillance in different settings.

2. Experience from ongoing programmes shows that surveillance is not necessary in countries where the active trachoma rate is >45-50%. Surveillance should start in countries or part of the endemic districts where reaching or approaching of objectives are achieved.

The Ultimate Intervention Goals to achieve for all components of the SAFE strategy are:

- TT <0.1% in total population;
- TF <5% in children 1-9 years old;
- 80% of communities should receive health promotion to encourage facial cleanliness
- 80% of households should either have a functional and used latrine or use other methods of safe disposal of faeces; and 80% of households should be within 1 km (a 15 min walk one way) of the nearest point from which water is available during the dry season;

As trachoma programmes develop, prevalence data at the district and then community level should be collected. When the district-level prevalence of TF in children aged 1–9 years is <10%, a sub district approach to assessment and intervention is recommended.

If school enrolment is very high (>90%) and district-level prevalence of TF in children 1–9 years of age is between 5% and 10%, trachoma surveys in schools may be useful to identify “hotspots” that need trachoma intervention, in addition to but not replacing population-based surveys.

- In communities in which the baseline prevalence is 10% or greater, mass treatment should be undertaken annually for 3 years and F and E components should be put in place or implemented. A repeat survey should be carried out after 3 years.
- In communities in which the baseline prevalence is 5% or greater but less than 10%, F and E interventions should be implemented (without antibiotic treatment) for 3 years. A repeat survey should be carried out after 3 years.

If the district-level population-based survey or the district prevalence of TT in persons aged 15 years or more is <0.1% TT surgery should be performed within routine Eye care. If the TT prevalence is > 0.1% TT cases should be detected and managed in an active manner.

3. Once a country has met criteria for elimination, it should consider applying to the WHO for verification, entering in the pre-verification phase. During this interim period of 3 years, surveillance must be in place.

Rationale for surveillance would be:

- to justify stopping treatment and to evaluate re-emergence of TF in place where it was under control at the end of the SAFE strategy implementation;
- to demonstrate that routine eye care services are managing incident and recurrent TT cases and monitoring incidence to detect any increase in blinding disease.

4. Trachoma surveillance for TF prevalence should be conducted in 2 selected communities (with 1,000-2,000 habitants each) per endemic district per year biased to the least developed and suspected most endemic. The selected sites should rotate annually. If the selected districts have more than 200,000 habitants, the sentinel sites to evaluate in those districts shall be 4.

The evaluation must involve all school entrance-aged children where attendance is >90% and there is no gender bias. In the other cases the investigation should be conducted on a minimum of 50 children in the community (5-6±2 years of age), but if it is feasible all children in the community should be examined.

If the response to the examination is a TF <5% no actions are required.

If the response to the examination is a TF >5%, all children aged 1-9 year olds should be examined and all the positive cases should be treated and their families and neighbours should be investigated and treated. In these cases the examination should be also extended to nearby villages. Facial cleanliness and environmental change must be verified and implemented.

If TF >5% in all 1-9 year olds, AFE coverage should be assessed and the entire community should be treated. All school entrance aged children in all the surrounding sub-district communities should be examined and in TF results to be >5%, AFE strategy should be re-implemented for 3 years and the situation evaluated at the end of this period.

5. Trachoma surveillance for TT prevalence should be conducted as a TT screening in all people aged >40 years in the same 2 selected sentinel communities per endemic district per year (see recommendation 4, mentioned above). On the other hand, National Health System should be able to collect, analyses and furnishes every year number of TT cases evaluated and/or operated in the Country. In other words, also refused and recurrence cases must be reported per year. For this reason, all people referring to a hospital must be screened for trichiasis and in any cases volunteers in villages should be trained to detect trichiasis, also after the achievement of the certification. The ideal way to detect all cases should be

organizing house-to house evaluation, but where this is not possible it must be useful to take advantage of other ophthalmic campaigns.

The refused cases should be investigated as a further follow-up on surgical quality, which in any cases must be scheduled in the criteria for certification. In fact, each country must demonstrate the ability to discriminate approached/un-approached cases and to manage the incident cases.

6. During the three year surveillance period a designated National Committee should quarterly receive district data reports with TF and TT data coming from district where their collection and analysis should be done monthly.

7. From available evidence, surveillance should continue for at least 10 years after achieving of the certification.

Facial cleanliness and environmental change must remain in place also after the elimination of trachoma to ensure the conditions of elimination.

Where possible the surveillance system should be integrated into other surveillance programmes in order to be under the direct responsibility of member States involved. However partners must be engaged and should continue their role in the control of the disease.

1. INTRODUCTION

The Meeting on post-endemic Surveillance for Blinding Trachoma of the WHO Alliance for the Global Elimination of Blinding Trachoma by the Year 2020 (GET 2020) was held at the headquarters of the World Health Organization (WHO), Geneva, Switzerland, from 4 to 5 November 2008. The meeting was attended by 12 participants (Annex 1).

Dr Lorenzo Savioli, Director, Control of Neglected Tropical Diseases, WHO, Geneva, opened the meeting, welcomed the participants, and underlined the opportunity to link operationally trachoma control activities with those for control of the other NTDs in order to simplify control strategies.

Dr Serge Resnikoff, Technical Advisor for Chronic Diseases and Health Promotion (CHP), WHO, Geneva, welcomed the opportunity to participate in the meeting. The SAFE strategy – with its four components, eyelid surgery (“S”), antibiotic treatment (“A”), facial cleanliness (“F”) and environmental improvement (“E”) – shows that trachoma is connected to economic factors and can be eliminated through a comprehensive strategy direct to fight blindness. It provides improved treatment of infection and case management, reversing the eye damage caused by the disease, and tackling the underlying causes.

Dr Serge Resnikoff was elected Chairman, Prof Sheila West (Johns Hopkins School of Medicine) and Professor Hugh Taylor (University of Melbourne) Vice-Person. The Proposed Agenda was unanimously adopted (Annex 2).

2. SURVEILLANCE IN BLINDING TRACHOMA ELIMINATION

Dr Silvio Paolo Mariotti, Medical Officer, GET 2020 Secretary, World Health Organization, Geneva, Switzerland

Trachoma disappeared in industrialized countries, but it remains an important cause of avoidable blindness in the poorest communities of low-income and very low-income countries.

In 1997 WHO established the international framework for the Global Elimination of blinding Trachoma (GET) by the year 2020. WHA 51.11 endorsed the SAFE strategy to control and eliminate blinding trachoma by 2020

Target dates for the elimination of trachoma have been adjusted for some countries, but the 2020 goal remains attainable.

The impressive progress made by several countries, especially Morocco and Oman, showed the need to set up the surveillance system in order to monitor and control coverage achievements avoiding dispersal of skills, competences, and support.

The data collected for the 3 years following the attainment of the UIG (ultimate intervention goals) will be functional to the process for certifying the elimination of blinding trachoma in the countries.

Certification will also require to: ensure that facial cleanliness and environmental improvement, FE components of the SAFE strategy, will continue to control trachoma transmission; and detect risk situations to provide quick feedback and trigger response where needed.

The current meeting provides an opportunity to define minimum requirements and clear guidelines that would enable countries to monitor the situation in term of trachoma re-emergence and move forward to the attainment of the WHO-GET 2020 secretariat certification.

Discussion

Assessment. It is necessary to define the methodology (not the model) to develop a surveillance system design, and the criteria and performance indicators to evaluate the quality and efficacy of the process.

Costs. Surveillance need to be sustainable for all range of countries and part of integrated public health systems. The methodology will develop in order to give the opportunity to the countries to use national resources at best.

3. PRINCIPLES OF SURVEILLANCE

Dr Simona Minchiotti, Medical Officer, World Health Organization, Geneva, Switzerland

The main goal of a surveillance system is to monitor and control trends in endemic diseases in order to evaluate interventions, needs, progress in achieving elimination objectives and programme performances. Surveillance – the systematic collection, analysis and dissemination of data to inform public health activities – may be active or passive. Active surveillance requires specific action to obtain information, while passive surveillance relies on the recording of information that comes to the notice of the health system. All public health intervention programmes require constant monitoring and feedback on performance to enable programme managers to monitor the quality of programme performance and direct or modify their interventions to meet the changing environment. Furthermore, decisions on the inclusion of a new public health intervention require critical information on the disease burden and epidemiology, as well as the expected cost-effectiveness and impact of the intervention itself.

Once interventions for prevention and control of the disease have been identified, it is necessary to set specific, measurable, realistic and time related objectives with particular attention to the indicators that are the measures of the evaluation. To Set objectives means to decide between

epidemiological (presence or absence of the disease, level or burden of a disease, progress towards a control objective), operational (performance of a control programme), social (social/development factors relate to an intervention), and impact indicators.

An ideal surveillance system design must consider the existing infrastructure and eye health care programme of each country, that means it would be necessary to develop a methodology to be applied in all countries responding to their needs and possibilities. For the same reason is necessary to consider costs, acceptability and data quality.

The collection of the data and the dissemination of the information are functional to an adequate evaluation and feedback.

Surveillance rationale. The rationale for the surveillance of a specific health event should be established and based on clear national priorities, disease control objectives and strategies. What data to collect depends on the analyses that are needed to guide decision-making on matters of public health. In order not to overburden health staff at the peripheral levels the surveillance system should be as streamlined as possible, i.e. the *minimum necessary* amount of data should be collected. The most efficient and appropriate means of collecting, consolidating and transferring such data should be employed. Staff at all levels should be trained and encouraged to analyse and use their data.

4. SURVEILLANCE SYSTEMS FOR TRACHOMA IN OMAN

Dr Rajiv Bhalchandra Khandekar, Ophthalmologist and Epidemiologist, Eye & Ear Health Care, Eye Health Care Programme, Ministry of Health Muscat, Oman

Oman is considering to apply for certification of the elimination of blinding trachoma and has appointed a team to follow the certification process. Oman began surveillance for trachoma in 1983.

Oman, a Member State of the WHO Eastern Mediterranean Region, has 11 health regions divided into 61 districts (*wilayats*), and the 175 Ministry of Health institutions have well-demarcated catchment areas. The eye health care programme is conducted under the guidance of a national eye health care through numerous optical and cataract clinics. The Ministry of Health has one tertiary hospital and nine regional hospitals, 21 eye clinics with ophthalmologists for outpatient care, and 163 primary health care centers where the physicians are trained in primary eye care. There are also private health and eye care facilities, and a nongovernmental organization, Al Noor Association for the Blind, supports many activities to combat blindness.

Education is free and school enrolment is 100% at the primary and 80% at the secondary level. Each year, all primary schoolchildren (around 45 000) undergo a comprehensive eye screening, and prevalence rates for TF and TI

in children aged 6–7 years are recorded. The households of all the children with active trachoma are visited and family members are screened for TF, trichomatous conjunctival scarring (TS) and TT (1200 persons in 2007). All cases of active trachoma are treated with azithromycine. Health care facilities implement a surveillance system that comprises notification on a monthly basis of all cases of TF and TT presenting for care.

Regular surveys have also been undertaken. In 1996–1997 a community-based survey of blindness showed that active trachoma was not common in the south of the country; prevalence in the north was 1–3% at district level. Prevalence of TT was also low in the south and higher in the north. In 2004–2005, an additional survey of all primary school children aged 6–12 years in three districts showed that prevalence was <5%. Active surveillance for TF in preschool children in three regions endemic for trachoma, undertaken as part of a poliomyelitis campaign in 2005, indicated a prevalence of 0.4–1.0%. It is hoped that pre-school surveillance can be implemented in the future. In 2005, a national glaucoma survey used to estimate the prevalence of TT in people aged >40 years showed a prevalence of >5% in two districts. Surveillance in people aged >12 years since 1998 has consistently shown that prevalence of TT is higher, but not significantly so, in females; uptake of surgery, which is free of charge, is also higher in females. Primary health care centers maintain a TT registry. In 2007, 1648 cases of TT were reported; corrective surgery was undertaken in 125 and electroepilation in 77. A study of TT in 2008 indicated a prevalence of 4.3–14.6%, including previously managed cases; however, in some districts no new cases were found.

There is a clear and regular flow of computerised trachoma surveillance information from the periphery to the centre and on to the international level. The data are analysed at the national level and results are disseminated every six months. The private sector reports information on eye diseases annually but data on trachoma are not currently included.

Incidence of active trachoma has declined significantly since surveillance began and in recent years has remained at <5%. Active trachoma is classed as a group B notifiable disease and, in 2007, 64 reported cases of TF were confirmed, mostly from previously endemic areas.

Trachoma control, including the importance of face-washing, is incorporated in the school curriculum, and health education campaigns are conducted weekly in schools and also for adults. Activities related to the “E” component are integrated in those aimed at the attainment of the Millennium Development Goals. In schools, quality of water, ventilation, illumination and sanitation are checked twice a year. Such efforts may be sufficient to monitor the “F” and “E” components, without specific activities related to trachoma control.

Surveillance has helped Oman to monitor the reduction of trachoma and progress towards the elimination of blinding trachoma. It also helps in identifying trouble spots, in generating internationally acceptable indicators and timely action in pockets of high endemicity, and in appealing for additional funding from higher government authorities. It has also highlighted areas where resurgence was occurring. The Oman programme shows that surveillance for active trachoma can be incorporated in health, eye-care and school-based programmes, and in communicable disease surveillance. A TT register can be useful in case-finding in high-risk populations. A reliable health information and management system can incorporate information on eye care, including trachoma, thereby avoiding duplication of effort.

Discussion

Surveillance system. In Oman, information related to the 0-5 year olds are collected during the vaccination campaign. Otherwise, the entire population is screened and followed through primary health care centres (that are compulsory the same for life); that means that they are screened for trachoma (TF, TS, and TT) during the first visit independently by the reason of the visit.

In any case, the best surveillance system for this pathology in Oman remains school children examination, due to the attendance rate that exceeds 95% for both boys and girls.

Surveillance cost. Oman is a country in transition from developing to developed, and noncommunicable diseases are becoming a burden. Its primary health care and eye care systems are well developed and provide a good model for others. Several surveillance and monitoring functions – detection, analysis, data management, analysis and reporting – are common to all health programmes. Linkage with other systems to strengthen surveillance and monitoring makes sense since it can reduce duplication, time and cost while increasing the efficient use of the often limited human and financial resources and physical structures.

5. SURVEILLANCE SYSTEMS FOR TRACHOMA IN MOROCCO

Dr Silvio Paolo Mariotti, Medical Officer, GET 2020 Secretary, World Health Organization, Geneva, Switzerland on behalf of Dr Jaouad Hammou, National Coordinator of the Prevention of Blindness Programme, Rabat, Morocco

Active surveillance, prevention and control activities, including implementation of the SAFE strategy at a community level have been implemented in Morocco since 2006 and integrated in the national health

plan action from 2006 to 2008. The endemic zones extend across 143 communities in five provinces (Errachidia, Figuig, Ouarzazate, Tata, Zagora).

Sentinel surveillance is implemented to detect TF forms. All villages of the 5 endemic provinces with a TF prevalence under 2% and between 4% and 5%, as estimated in the 2004-2005 surveys, and with a rate of poverty >20% are target for surveillance on a rotation basis. In the selected villages, all children from 1 to 9 years are examined for TF at school or at the primary health care services. All negative and positive cases are registered every six months and the households of all the children with active trachoma are visited and family members screened for TF. All detected cases of active trachoma are reported to the province level and treated with azithromycin.

Prevalence of TT in all villages of the endemic provinces are evaluated with a house-to-house case detection and also the surgery refusal cases and recurrences are registered. Surgery is offered free of charge and TT cases have to refuse surgery three times before to be considered a final refusal person. The offer of free of charge TT surgery remains valid also after the 3rd refusal.

Results of surveillance to the end of 2007 indicated that prevalence of TF/TI in children aged 1–9 years in five districts was <5% with a range between 0% and 3.83% and a school coverage rate >90%. School enrollment is 96.6-99.4% for males and females. In 2007, 1886 cases of TT were reported; corrective surgery was undertaken in 1122 and 347 refused surgery. The coverage rate correspond to 80% of Annual Intervention Objective for 2007

Discussion

Strengths. The programme is intersectoral and employs trained personnel. The active surveillance system provides reliable epidemiological data.

Weaknesses. In 2007 there were changes in personnel due to lack of motivation and limited resources; while the costs increased.

Threats. The emergence of other diseases may reduce the resources available for combating trachoma and the attention of partners in supporting trachoma elimination activities.

Opportunities. Surveillance system and elimination of active trachoma are included in the action plan of the Ministry of Health for 2008-2012 in order to collect data to apply for certification from WHO.

6. INTEGRATED IMPLEMENTATION, AND MONITORING AND EVALUATION OF PREVENTIVE CHEMIOTHERAPY

Dr Dirk Engels, PCT Coordinator, World Health Organization, Geneva, Switzerland

The NTDs, including trachoma, are diseases of poverty and are associated with poor living conditions and lack of access to good quality health services. Case management, preventive chemotherapy and transmission control are the three main strategies for NTD control.

Preventive chemotherapy is a rapid impact intervention that can bring immediate benefits while transmission control measures, environmental improvements, and education for behavioural change are taking effect.

WHO has issued guidelines to help countries choose appropriate treatment algorithms and to coordinate and implement their large scale preventive treatment programmes respecting all existing disease-specific guidelines.

It is critical to have an accurate map of disease epidemiology and a national plan of action addressed to implementation of strategies, drug delivery and programme performance surveillance. Short-term and long-term effect evaluation of preventive chemotherapy must also be considered, thereby monitoring disease-specific impact, socio-economic impact and cost-effectiveness. Specific indicators to measure programme performance must be set.

The existing template for country profiles referring to other NTDs contains: maps of disease endemicity, maps of required interventions, progress in implementation of these interventions, progress towards disease-specific targets, and monitoring of disease endemicity decline. Substantial financial support for elimination programme monitoring and surveillance should be, primarily, the responsibility of national governments who should be urged to provide this support in a sustainable way through standardized plan of action showing situation analysis and summary budget.

Discussion

Trachoma and the integrated control of NTDs. As new NTD initiatives evolve, it will be important to ensure that important specific characteristics of the control programmes for the individual diseases, including trachoma, are maintained. That means to maintain the pressure on trachoma also when UIGs will be achieved and to continue to train the ophthalmologists to diagnose the pathology.

There was also some evidence that parallel systems of NTD control were developing, and concern that advocacy for preventive chemotherapy may weaken well-established existing vertical programmes and implementation of the "S", "F" and "E" components of the SAFE strategy for trachoma control. Probably indicators will be extended to integrate trachoma in existing NTDs strategy.

7. POST TRACHOMA UIG ACHIEVEMENT SURVEILLANCE

Professor Sheila West, Ophthalmologist and Epidemiologist, Center for Epidemiology and Preventive Ophthalmology, Dana Center, The Wilmer Institute, John Hopkins School of Medicine, Baltimore, USA

Countries are eligible for certification when they have demonstrated the achieved reduction of TF <5% in children under 10 years at community level in the endemic areas, for at least 3 years following the cessation of antibiotic mass treatment, targeted treatment, and vertical programme. This reduction would be documented by two different surveys: the first one conducted on time 0 (achievement of UIG) to justify the cessation of mass treatment, targeted treatment, or treatment campaigns. Eliminate blinding trachoma, as for WHO guidelines means not eradication or complete elimination of trachoma at any level, but control to maintain the active form under a low level (TF <5% in children <10 year olds). The second survey will confirm the maintenance of these levels 3 years after the cessation of mass antibiotic treatments.

The other request to satisfy in order to obtain certification is the existence of a programme to reduce prevalence of trichiasis through surgical management and follow-up in the health system of the country considered. A good transmission and analysis of data are functional to maintain a "certification standard" surveillance.

Surveillance approach depends on country needs considering that: 1) TF requires active yearly surveillance based on clinical recognition; 2) TT case finding cannot depend on waiting for cases to appear; and 3) the selected surveillance system must be validated.

NTDs approach uses an Integrated Disease Surveillance and Response for onchocerciasis, leprosy, tuberculosis, and other pathologies but just now trachoma is not reported in the list of diseases investigated. On the other hand, no one of the diseases of this list has a surveillance system totally placed on top of trachoma.

A good, but expensive example for reporting and treating cases was the Guinea Worm Eradication Program in Uganda.

The active surveillance for trachoma would investigate yearly by routine surveys 2 areas: a specific sample of the worst district and a random sample of other areas selected between the first to be cleared or the migrant border areas.

The routine surveys could be conducted in the maternal and child health services, in the vitamin A distribution centres and/or during immunization campaigns with reduced additional costs.

It would be useful to decide the approach to the re-emergence cases of TF during the surveillance period in order to give valid advices to the countries.

Surveillance for TT would be based on the existence of a registry of cases and refusals with a low post surgeries recurrence rate documented by registry information.

Reporting procedures and completeness must be considered to validate the surveillance system and, in particular, it would be evidence that: 1) district

reports are received by a national committee every 3 months initially and then yearly; 2) investigations of outbreaks have occurred shortly after discovery; 3) follow-up procedures have been instituted; 4) data analyses and connected action plans are carried out at the district level for a more rapid response.

The national committee should regularly assess the internal validity of the reports.

8. SURVEILLANCE FOR BLINDING TRACHOMA: HOW DIFFERENT FROM OTHER SURVEILLANCE SYSTEM

Professor Hugh Taylor, Professor of Ophthalmology, Center for Eye Research, University of Melbourne, Melbourne, Australia.

Every Country should have the capacity to conduct programme and routine coverage monitoring, disease-specific surveillance, and detect and respond to outbreaks.

Concerning trachoma, the reasons of surveillance are detection of recurrence and/or recrudescence of active forms and management of new TT cases.

In countries with high school enrollment rate (>90%) the TF screening and evaluation may be conducted in the first grade children, that means in the 5-6 years old population. The areas to control could be the worst for the TF, detected by a TRA, compared to other random rotation selected areas.

The TT could be assessed in a passive manner considering the surgical TT volume with occasional survey of collected health service data. This process requires also a quality control of the surgical services by the country.

Evidence of recurrence or recrudescence of the disease above threshold levels would be treated at local level (district) re-establishing the SAFE strategy.

Linkage with other systems to strengthen surveillance and monitoring makes sense since it can reduce duplication, time and cost while increasing the efficient use of the often limited human and financial resources and physical structures. Linkage should be appropriate and efficient and provide « added value » to achieve mutual benefit. For this reason the PHC workforces, who are the first line of the surveillance system, should be trained to collect data and to disseminate information on SAFE strategy to the population.

All data collected would be analyzed at central level.

Discussion

Feasibility. The screening in first grade schools has the objective to reduce costs and to evaluate, where school rate is high, the biggest part of children

in the country in order to identify communities needing trachoma intervention..

9. SURVEILLANCE SYSTEM: FEASIBILITY AND APPLICABILITY IN REAL WORLD SITUATION

Dr Abdou Amza , Coordinator, National Programme for the Prevention of Blindness, Ministry of Public Health, Niamey, Niger

Niger has 7 regions and a population of around 13 million, with a children mortality of 126‰ and a life expectancy of 47 years. Only 52% of the population has access to safe water and in 1987, the prevalence of blindness was 2.2%.

Ophthalmic human resources are inadequate in number and distribution, in particular 7 of the 10 existing ophthalmologists (1/1,388,256 vs. 1/500,00 recommended) work in Niamey and 25 of the 40 nurses (1/347,064 vs. 1/100,000 recommended) practise in the capital. The active cataract surgeons are 2 in all the country.

Estimation for active trachoma undertaken between 1999 and 2001 indicated a prevalence: from 5% to 8% in the region of Agadez and in Niamey; from 20% to 50% in three regions; and >50% in the remaining three regions (Diffa, Maradi, Zinder).

A trachoma control strategy was developed some seven years ago and an impact survey conducted after 3 years of SAFE strategy implementation in Zinder region; it showed that TF/TI prevalence was reduced from a range between 26.4% and 63.8% at baseline to a range between 4.9% and 31% after SAFE strategy implementation; while prevalence of TT was reduced from a range between 1.2% and 7.7% at baseline to a range between 0.04% and 2.3% after implementation.

Since 2001, an integrated diseases surveillance sentinel system was developed in Niger with coordination at national level.

The monitoring indicators for trachoma are TF/TI in children aged 1-9 years; TT in women >15 years of age; and antibiotic coverage.

Strengths. The programme uses existing and active structures. It provides reliable follow-up data.

The programme is intersectoral and employs trained personnel.

Weaknesses. Vertical approach to some diseases as trachoma and lack of financial resources affect delivery of the programme.

The programme for the prevention of blindness is not informed on the results of surveillance activities. Further, trachoma control may be integrated to the national health system and rapid intervention may be required for treatment of active trachoma and TT.

Discussion

School surveys. Niger should plan to conduct population-based surveys as recommended by WHO.² As trachoma programmes develop, current prevalence data at the district and then community level should be collected.

10. SURVEILLANCE CHALLENGES IN NEW COUNTRIES: ZIMBABWE

Dr Ruth Welbeck, Ophthalmologist, Harare, Zimbabwe

Zimbabwe has an area of just under 400 thousand km² with 10 administrative provinces and a population of around 11 million, 65% living in rural areas. Since 2000, the country's infrastructure of one of the most stable economies in Africa has been decimated by socioeconomic crisis. Gross domestic product growth in 2007 was < 5.7%. Poverty affects 80% of the population with an unemployment rate around 85%.

Post independence, Zimbabwe developed a plan for equity in health and a primary health care approach was adopted with a massive expansion of public health sector in 1990. The system is organized in 4 functional levels, from national to primary/rural health centres under Ministry of Health and Child Welfare (MOHCW) control. In this health organization 85% of population refers to health centres with trained personnel at not more than 8 km. However, the economic crisis restricted medical activities due to: inadequate government budget allocation; lower personnel interest due to poor remuneration and working condition; community economic difficulty in accessing to health care services.

The current status of surveillance system in Zimbabwe is mainly passive with hospital admission and outpatient records evaluation. Active surveillance for HIV/AIDS in sentinel sites is supported by international NGOs. Data flow are irregular and incomplete and control activities have also been hampered by lack of trained staff and logistic organization.

Trachoma seems to be confined to north-east and south areas with 50% of population at risk. Reliable data are insufficient due to lack of ophthalmologist and eye-care trained personnel in rural areas. For this reason a rapid assessment would be useful as a basis for national discussion on trachoma control. At present trachoma is not a health top priority, Political awareness and commitment are requested to create a functional trachoma control programme. Support from WHO and other partners will be needed to mobilize resources, to integrate trachoma control with NTDs plan, and to involve human resources as Ophthalmological Society of Zimbabwe (OSZ).

11. SURVEILLANCE SYSTEM IN ETHIOPIA: WORK AND COLLABORATION OF A WHO COUNTRY OFFICE

Dr Adamu Liknaw, NPO/PBL, World Health Organization, Addis Ababa , Ethiopia

In 1996, Ethiopia introduced an integrated diseases surveillance and response (IDSR) programme focusing on 22 priority diseases. The strategy was strengthened after the World Health Organization's Regional Office for Africa (WHO/AFRO) resolution of the 48th assembly in 1998. On this basis, Ethiopia structured its national surveillance system into central, regional and district (Woreda: 100,000-300,000 habitants) levels.

The establishment of an IDSR task force in the Ministry of Health, the adaptation of technical guidelines, the adoption of a five-year national plan, and the implementation of training activities have contributed to an overall improvement in data collection, analysis and interpretation for public health action.

Federal Ministry of Health (FMoH) coordinates the National Committee for the Prevention of Blindness (NPPB). Primary eye care units are 47, ophthalmologists are 103 (60% in the capital) and ophthalmic nurses are 96. Personnel are trained every year to improve their number in the country.

A national survey on the visual impairment undertaken in 2006, showed a prevalence of blindness of 1.6% and a prevalence of low vision of 3.7%. People affected by avoidable blindness were 1,049,198.

Trachoma is the second cause of blindness and it is endemic in 529 of the 611 districts with a population at risk estimated at 65 million. Prevalence of active trachoma was higher in Amhara (63%), Oromia (41%) and SNNPR (33%). TF prevalence in children aged 1-9 years was of 40%, while 1.3 million of TT cases were detected in aged >15 years.

Ministry of Health of Ethiopia used the survey results to adapt a 5-year national strategic plan for trachoma control in 2006. Major performance indicators for this plan are: 1) number of TT surgery done in aged >15 years, as results of prevalence surveys; 2) number of Woredas covered by Azithromycin distribution and prevalence of TF in aged 1-9 years after a 3 year treatment; 3) proportion of children 1-9 years with clean face, as per survey results; % of latrines available and water supply.

Although national and regional review meetings involving all stakeholders are organized every year, data collection and flow of standardized trachoma information are irregular and incomplete. The mid-term evaluation of the 5-year national strategic plan for trachoma is under preparation .

The role of WHO Country Office is to provide assistance to the Federal Ministry of Health and the Prevention of Blindness programme in assessment,

planning, implementation, monitoring and evaluation of eye care activities. In particular, the National Survey on Blindness , Low vision and Trachoma was held in 2006 with technical support of WHO Country Office.

Discussion

Integration in IDSR system. Trachoma would be integrated in the IDSR system to facilitate the information flow and the feedback. Reports will be sent to the FMOH quarterly by all partners involved in the trachoma activities in the country in order to create an overview of the situation. Epidemiological surveys are too expensive for the FMOH at this moment and to obtain community level reports 30,000 health workers are to train for trachoma.

10. CONCLUSIONS

The participants in the Meeting on post-endemic Surveillance for Blinding Trachoma adopted the following conclusions to be shared at the next meeting once finalized appropriately.

1. Countries should commence planning as early as possible for trachoma post- intervention surveillance as part of their blinding trachoma elimination plan, taking into account existing national surveillance systems. WHO should provide guidance by the mean of issue guidelines for the establishment and management of such surveillance in different settings.

2. Experience from ongoing programmes shows that surveillance is not necessary in countries where the active trachoma rate is >45-50%. Surveillance should start in countries or part of the endemic districts where reaching or approaching of objectives are achieved.

The Ultimate Intervention Goals to achieve for all components of the SAFE strategy are:

- TT <0.1% in total population;
- TF <5% in children 1-9 years old;
- 80% of communities should receive health promotion to encourage facial cleanliness
- 80% of households should either have a functional and used latrine or use other methods of safe disposal of faeces; and 80% of households should be within 1 km (a 15 min walk one way) of the nearest point from which water is available during the dry season;

As trachoma programmes develop, prevalence data at the district and then community level should be collected. When the district-level prevalence of TF in children aged 1–9 years is <10%, a community-by-community

approach to assessment and intervention is recommended. If school enrolment is very high (>90%) and district-level prevalence of TF in children 1–9 years of age is between 5% and 10%, trachoma surveys in schools may be useful to identify “hotspots” that need trachoma intervention, in addition to but not replacing population-based surveys.

- In communities in which the baseline prevalence is 10% or greater, mass treatment should be undertaken annually for 3 years and F and E components should be put in place or implemented. A repeat survey should be carried out after 3 years.
- In communities in which the baseline prevalence is 5% or greater but less than 10%, F and E interventions should be implemented (without antibiotic treatment) for 3 years. A repeat survey should be carried out after 3 years.

If the district-level population-based survey or the district prevalence of TT in persons aged 15 years or more is <0.1% TT surgery should be performed within routine Eye care. If the TT prevalence is > 0.1% TT cases should be detected and managed in an active manner.

3. Once a country has met criteria for elimination, it should consider applying to the WHO for certification, entering in the pre-certification phase. During this interim period of 3 years, surveillance must be in place. Rationale for surveillance would be:

- to justify stopping treatment and to evaluate re-emergence of TF in place where it was under control at the end of the SAFE strategy implementation;
- to demonstrate that routine eye care services are managing incident and recurrent TT cases and monitoring incidence to detect any increase in blinding disease.

4. Trachoma surveillance for TF prevalence should be conducted in 2 selected communities (with 1,000-2,000 habitants each) per endemic district per year biased to the least developed and suspected most endemic. The selected sites should rotate annually. If the selected districts have more than 200,000 habitants, the sentinel sites to evaluate in those districts shall be 4.

The evaluation must involve all school entrance-aged children where attendance is >90% and there is no gender bias. In the other cases the investigation should be conducted on a minimum of 50 children in the community (5-6±2 years of age), but if it is feasible all children in the community should be examined.

If the response to the examination is a TF<5% no actions are required.

If the response to the examination is a TF >5%, all children aged 1-9 year olds should be examined and all the positive cases should be treated and their families and neighbours should be investigated and treated. In these

cases the examination should be also extended to nearby villages. Facial cleanliness and environmental change must be verified and implemented.

If TF >5% in all 1-9 year olds, AFE coverage should be assessed and the entire community should be treated. All school entrance aged children in all the surrounding sub-district communities should be examined and in TF results to be >5%, AFE strategy should be re-implemented for 3 years and the situation evaluated at the end of this period.

5. Trachoma surveillance for TT prevalence should be conducted as a TT screening in all people aged >40 years in the same 2 selected sentinel communities per endemic district per year (see recommendation 4, mentioned above). On the other hand, National Health System should be able to collect, analyses and furnishes every year number of TT cases evaluated and/or operated in the Country. In other words, also refused and recurrence cases must be reported per year. For this reason, all people referring to a hospital must be screened for trichiasis and in any cases volunteers in villages should be trained to detect trichiasis, also after the achievement of the certification. The ideal way to detect all cases should be organizing house-to house evaluation, but where this is not possible it must be useful to take advantage of other ophthalmic campaigns.

The refused cases should be investigated as a further follow-up on surgical quality, which in any cases must be scheduled in the criteria for certification. In fact, each country must demonstrate the ability to discriminate approached/un-approached cases and to manage the incident cases.

6. During the three year surveillance period a designated National Committee should quarterly receive district data reports with TF and TT data coming from district where their collection and analysis should be done monthly.

7. From available evidence, surveillance should continue for at least 10 years after achieving of the certification.

Facial cleanliness and environmental change must remain in place also after the elimination of trachoma to ensure the conditions of elimination.

Where possible the surveillance system should be integrated into other surveillance programmes in order to be under the direct responsibility of member States involved. However partners must be engaged and should continue their role in the control of the disease.

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