SAFE strategy. Additional detailed information can be found in the technical manuals available through the Prevention of Blindness Programme of the World Health Organization. In addition, the previous Issue of the *Journal of Community Eye Health* on this theme (No. 14) continues to be highly relevant, and back issues are available free of charge from the International Resource Centre (see page 54). One should also be aware of the trachoma teaching CD-ROM that has been produced by the Wellcome Trust and is distributed by CAB International. (See page 63 for details on how to obtain these and other teaching and educational materials).

The new antibiotic, azithromycin, is important as it may effect a decrease of transmission in a community, while the longer lasting elements of facial hygiene and environmental control are put in place. More important, however, is the rebirth of interest to assess and then take action to end trachoma as a cause of blindness. If the SAFE strategy can be put into practice where trachoma remains endemic, transmission could be halted well before 2020, the year that the Global Alliance expects to see an end to the need for corrective lid surgery.

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Review Article

Trachoma Rapid Assessment: Rationale and Basic Principles

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Bilateral corneal scarring after trachoma
Photo: John DC Anderson

Rationale

Today, trachoma is found in underprivileged communities with poor living conditions, where there is little hope of rapid economic development. The disease is found mainly in remote rural areas of most African countries, in some Eastern Mediterranean countries and in certain parts of Central and South America. Trachoma is also endemic in several Asian countries, but there is a lack of updated information from some highly populated countries, such as India and China.

The severity of trachoma and thus the degree of its blinding potential varies from community to community.

The **evolution of the disease typically presents two stages**, that are separated by several years, or often decades:

- **inflammatory (active) trachoma**, diagnosed most often in children. In many settings, girls tend to have more frequent and severe active disease than boys.
- **cicatricial (scarring) trachoma**, usually found in adults with ultimate development of trichiasis. This is often found 3–4 times more commonly in women as compared with men.

Consequently, when assessing trachoma at the community level, it is important to consider both the **inflammatory disease in children**, and the **potentially blinding complications (i.e., trichiasis) in adults**.

- In long standing hyperendemic areas there would be evidence of active severe trachoma in children, as well as trichiasis and trachoma related visual impairment in older persons. In such a situation both mass interventions (antibiotic distribution and health promotion) and trichiasis surgery should be provided.
- In certain circumstances, only mild, non-blinding trachoma cases are found in a community. If so, cases of inflammatory disease are seen in children and very few cases or no case at all of trichiasis are found. In such circumstances, there is usually no need for mass interventions at the community level and only recognised activecasesneedtobetreatedindividually.
- By contrast, there are communities where trachoma may have been a severe disease in the past. Very few cases, if any, of inflammatory disease are identified in children. However, cases of trichiasis in adults are still present in the community. Trichiasis surgery needs to be provided without delay in these communities.

Financialandhuman resourceconstraintsin many trachoma-endemic countries demand that eliminationprogrammesfocus on areas of blinding trachoma.

There is, therefore, **a need to identify** (with a fair degree of confidence) **those communities 'in greatest need' which should benefit from interventions** (treatment and prevention) **on a priority basis**.

This assessment should determine the presence or absence of trachoma as a public health problem and the nature of the interventions to be carried out in a given community in order to eliminate the problem of blinding trachoma.

Risk factors for severe trachoma (i.e., leading to blindness) are well known (related to poor family hygiene) and easy to identify at the community/family levels. These include:

- Lack of facial cleanliness amongst children.
- Crowding: in circumstances where people live in close physical contact with each other, e.g., sharing the same sleeping material or bedding.
- Insufficient environmental sanitation, particularly for sewage and garbage disposal at the community level and the unavailability of latrines at the family level. These factors and others (such as keeping cattle next to human dwellings) make flybreedingpossibleclosetohouseholds.

As trachoma is closely related to living standards and hygiene, its epidemiological pattern may change relatively rapidly, even if no specific intervention is carried out. This is true when socio-economic development occurs in the community. That is why the information needed to plan/re-plan a trachoma project/intervention should

reflect the actual epidemiological pattern existing in the communities concerned. The challenge for health planners and managers is to obtain a better insight into the current trachoma situation than that normally available from routine information systems. It follows that

When assessing trachoma it is important to assess not only the magnitude of the active disease, but also its degree of severity and the existing risk factors at community/household levels, at a specific point in time.

Epidemiological surveys offer a very useful way of collecting valuable information that is not available from routine health information or existing surveillance systems. However, 'classical' surveys are expensive (staff, time and money) and are very often difficult to carry out in a timely manner. Most of the endemic countries face economic barriers and lack of personnel. Consequently, most of the time, they cannot afford such surveys.

Rapid Assessment

In order to use scarce resources in a cost-effective and appropriate manner, and identify and reach the communities most in need of intervention, it is necessary to determine where most severe blinding trachoma is found. Thus, for programme purposes, a rational, rapid and low cost method of identifying specific areas/-communities liable to have a significant problem of blinding trachoma is needed**. Rapid Assessment (RA)**, in which health managers **review the existing records**, **interview key informants** and **make direct 'observations'** at the community level, when necessary, represents a suitable way of obtaining this information.

RA methodology is one of the operational research issues (along with surveillance, antibiotic distribution and community-based surgery) which have been agreed upon for further development by the WHO Alliance for the Global Elimination of Trachoma by the Year 2020 (GET 2020).

The term '**rapid'** refers both to the time spent in the field collecting the data and the time spent analysing these data. This should be **the minimum acceptable time to gather current information by which to develop a plan of action:**

- Managers and planners need to have a fairly **quick and cost-effective approach** for decision making purposes.
- RA is a method of **getting information** about a set of problems in relation to trachoma, in a short period of time and **without a large expenditure of professional time and finance.**

RA therefore represents the first step in the process of identifying communities for planning trachoma interventions (using the WHO Alliance-supported 'SAFE' strategy).

- RA is based on **community participation.**
- RA should be considered as **an operational tool**, developed to help decision makers to determine and target the most highly endemic communities for treatment.
- RA is a **practical way of determining rapidly** *whether or not* blinding trachoma is endemic in a given community.
- RA will allow for **ranking of communities** (for example into three groups of high, medium and low priority for intervention). In that sense, RA facilitates the planning of trachoma control activities through the identification of high-risk zones where large-scale interventions are indicated.

The basic principle is to collect the maximum of relevant information in the minimum of time and at the lowest cost in order to build **an information pyramid** (Fig. 1). The term 'information pyramid' refers to the description of the trachoma situation in a defined geographical area. This will be a three level pyramid.

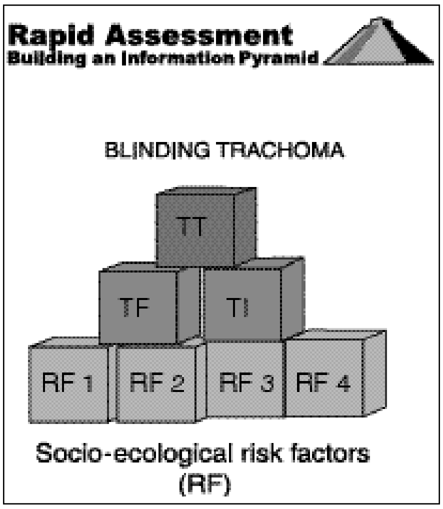

Fig. 1. Information Pyramid

The Information Pyramid

- The **top level** concerns obtaining data on blinding trachoma and the existence of cases of trichiasis in a community.
- The **middle level** describes the presence and severity of 'active' trachoma in the community.
- The **foundation** of the pyramid is built on information about risk factors and reflects the socio-ecological factors which may influence eye health and the severity of trachoma in that community.

Washing hands and face

H Anenden/WHO

When planners and eye project managers decide to carry out RA, they should collect separate sets ('blocks') of information, from different sources, in order to build up this pyramid. It is therefore crucial for them to find acceptable ways of gaining that information.

Information may be directly extracted from **existing written documents**. However, other ways must be explored systematically to gain information directly from people, through **interviews** or **group discussions** or the community through **direct observations made during field visits** or **eye examinations performed in specific age groups**.

Proposed Method for Collecting the Information

In order to identify the blocks of information needed to build up the pyramid, RA will systematically go through the following steps (Fig. 2):

1. Organise a first phase of investigation. This rather ***static/passive*** phase (mainly 'desk work') represents a preliminary assessment and consists of:

- Gathering and **reviewing all existing documentation** providing evidence of trachoma and its complications, as well as socio-economic information from the area of study.
- **Confirming and analysing** the information gained at the completion of this step
- Deciding **what additional information is still required**.

2. Organise a second phase of investigation, the ***dynamic/active*** phase (mainly fieldwork) and conduct visits in selected communities.

- **Trichiasis** will be assessed through a series of **simple questions**, followed by the identification by the community members of persons likely to suffer from 'in-turned' eyelids with lashes rubbing against the cornea. An **eye examination** should be carried out in every 'suspected' case, in order to confirm the diagnosis of trichiasis.
- **At least fifty children (1–9 years old)** should be examined from the households at higher risk to assess active infection in the community reservoir, using the **WHO simplified trachoma grading system.** The selection of households should be 'optimally biased' towards the least privileged ones, in order to increase the likelihood of diagnosing trachoma patients, if there are any in the community.
- **Facial cleanliness** should be recorded for each child examined.
- **Other hygiene-related risk factors** may be assessed at the household or community levels, such as availability of latrines, availability of water, etc.

3. The findings are summarised in a table, which shows the existence of blinding trachoma and active trachoma in the different districts/communities investigated, in order of priority.

Reminders

- **Involve the community.**
- **Do not collect too much data or data that you may not use!**

What Can be Expected from RA

Using RA data:

- The trachoma control co-ordinator will be able to provide more accurate figures on the **number of communities concerned** and on **population sizes** which will require active public health interventions.
- S/He is in a better position to **rank the districts/communities** and take immediate action within the framework of the SAFE strategy.
- Finally, the **distribution pattern of trachoma for each province/district/community** will become more evident and the need for additional (scientifically sound) epidemiological data will become obvious.

What RA is Not

- RA is **not a detailed household survey** which quantifies the size of the trachoma problem in the community. RA is **not based on an accurate epidemiological methodology**; it can only give a rough picture of the provinces/districts/communities where blinding trachoma exists. After a problem has been identified and given priorities by planners, a detailed survey may be necessary in certain circumstances, to provide sound baseline data.
- RA does **not and should never replace proper surveys** to assess the magnitude of the trachoma problem. It is not suitable for monitoring, nor does it provide a baseline for evaluation of interventions; more accurate methods are needed for that purpose.
- RA **indicates only what the trachoma-related problems are in a given community**, at a specific point in time.
- RA is, and should remain, **the beginning of a process** for collecting information in order **to prepare a plan of action** against trachoma.

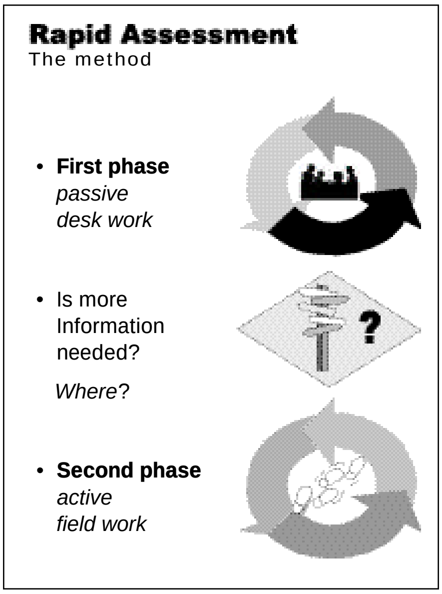

Fig. 2. The Method

Conclusions

The procedures of RA are not completely finalised. This paper shows the progress achieved so far. The procedures described above have not been fully endorsed by the WHO Alliance. Further field work and validation will need to be undertaken and reviewed. Extensive field work is presently being conducted using a 'draft manual' and technical support from WHO. It is expected that a more 'polished product' will be presented at the next Alliance meeting in December 1999.

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Trichiasis Surgery

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Introduction

Trichiasis involves eyelashes rubbing on the eyeball. Repeated infection with *Chlamydia trachomatis* causes scarring and shrinking of the conjunctiva lining the inside of the eyelid (tarsal conjunctiva), which has the effect of pulling the lid margin towards the eye (entropion) and with it the lashes. If the lashes are in prolonged contact with the cornea, then permanent corneal scarring and visual impairment may result. In addition, since the cornea is one of the most sensitive parts of the body, trichiasis can be a very painful condition.

Surgical Principles and Management

The principle of surgical management of this condition involves rotating the marginal part of the eyelid outwards, away from the globe, so that the lashes are no longer in contact with the eye. To achieve this, a horizontal lid split is made approximately 3mm from the lid margin (through tarsal conjunctiva and tarsal plate for the Trabut type operation or 'tarsal plate rotation' and, additionally, through orbicularis oculi muscle and skin for the bilamellar tarsal rotation). This is followed by outward rotation of the distal fragment which is effected by 'everting' mattress sutures. The bilamellar tarsal rotation is the procedure recom-

Trichiasis surgery
Photo: Mark Reacher