WORLD HEALTH ORGANIZATION
STRATEGIC AND TECHNICAL ADVISORY GROUP
FOR NEGLECTED TROPICAL DISEASES

WORKING GROUP ON MONITORING AND EVALUATION

DESIGN AND VALIDATION OF A TRACHOMATOUS TRICHIASIS-ONLY SURVEY

World Health Organization

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Strategic and Technical Advisory Group for Neglected Tropical Diseases

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Abbreviations

TF	trachomatous inflammation—follicular
TT	trachomatous trichiasis
TS	trachomatous scarring
WHO	World Health Organization

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1. Background

1.1 The Fifty-first World Health Assembly adopted resolution WHA51.11 in 1998, which targets the global elimination of trachoma as a public health problem by 2020 *(1)*. The strategy recommended to achieve that goal is encapsulated by the acronym "SAFE", which represents: Surgery for individuals with trachomatous trichiasis (TT; the late blinding stage of trachoma); and Antibiotics, Facial cleanliness and Environmental improvement *(2)*. The A, F and E interventions are delivered to entire districts in which active (inflammatory) trachoma is common in order to treat ocular infection with *Chlamydia trachomatis*, the causative organism of trachoma, and sustainably reduce its transmission.

1.2 At a series of global scientific meetings on trachoma *(3–6),* elimination thresholds for trachoma were defined as a prevalence of the active trachoma sign "trachomatous inflammation—follicular" (TF) *(7)* of < 5% in children aged 1–9 years, and a prevalence of TT *(7)* unknown to the health system of < 0.2% in adults aged ≥ 15 years *(8)*. The prevalence of these signs should be measured at district level, where districts are "the administrative unit for health care management", which "for purposes of clarification, consists of a population unit between 100 000–250 000 persons" *(5)*.

1.3 The World Health Organization (WHO) endorses the use of population-based prevalence surveys for estimating the prevalence of trachoma *(9)*. In general, the prevalence of TF in children aged 1–9 years and the prevalence of TT in adults aged ≥ 15 years are measured at the same time in any district being surveyed. This was the approach of the Global Trachoma Mapping Project *(10)*, which undertook baseline surveys in > 1500 districts worldwide in order to provide the data required to start interventions where needed *(11)*.

1.4 The survey design recommended by WHO is a two-stage cluster random sample survey, which uses probability proportional to size sampling to select 20–30 villages *(9)*, and random, systematic or quasi-random sampling to select 25–30 households in each of those villages *(10)*. In most surveys, everyone aged ≥ 1 year living in selected households is examined.

1.5 Usually, surveys are powered to estimate the prevalence of TF in 1–9-year-olds *(9,10)*. TF is most common in young children, whereas TT becomes increasingly common with increasing age *(12–15)*; it is also, in the population as a whole, a much less common sign than TF. Because of this, and because the number of adults aged ≥ 15 years resident in a group of selected households is often not much more than the number of 1–9-year-olds resident in those households, the number of adults examined in a survey is generally not sufficient for estimating TT prevalence with good precision. These surveys simply accept poor precision in estimating TT *(6,9,10)*.