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# Executive Summary

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## Request for advice

What is the current level of knowledge concerning Chlamydia infections in men and women? Would it make sense to introduce general screening for the purpose of detecting Chlamydia infections? Furthermore, would it be right to conduct screening in conjunction with an abortion procedure, since the combination of abortion and Chlamydia can lead to complications? These questions were addressed to the Health Council by the Minister of Health, Welfare and Sport. The Chairman of the Health Council has appointed a Committee to answer these questions.

## Number of infections

Infection by *Chlamydia trachomatis* is the most common bacterial sexually transmitted disease. It is estimated that each year, throughout the world, there are 92 million new infections. In the Netherlands, the annual number of infections is estimated at approx. 60,000, of which 35,000 are in women and 25,000 in men. The number of infections is still increasing.

It is not known exactly how often Chlamydia infections occur. It is often assumed that Chlamydia infections occur in approx. 3% of sexually active men and women below the age of 25. (It is anticipated that this percentage will be higher in the major cities than in rural areas.) Data for Amsterdam alone shows that three to five percent of those in the

15-40 age group acquire new infections each year. Sixty-five percent of Chlamydia infections in women occur in individuals below 24 years of age.

Chlamydia infections frequently cause no symptoms at all. Where symptoms do occur, they are often mild and nonspecific. Accordingly, about 50% of infected men and 70% of infected women are unaware that they have an infection. Yet Chlamydia infections can lead to serious complications. Importantly, all infected individuals (which of course includes those who are unaware that they are infected) can unknowingly pass the infection on to their sexual partners.

## Repercussions

Unnoticed and untreated Chlamydia infections lead to health impairment, at substantial cost to the individual in question and to society at large. The most distressing complications occur in women. These are ectopic pregnancies, reduced fertility and infertility. Such complications are caused by the infection spreading upwards along the reproductive tract. Next, a clinical picture known as pelvic inflammatory disease (PID) develops. Chlamydia infections can also result in chronic pelvic pain and, after a full-term pregnancy, the birth of an infected child.

Substantial numbers of infected individuals encounter problems of this kind. It is estimated that Chlamydia infections result in 5,000 to 10,000 new cases of PID per annum. About 20% of women suffering from PID are thought to have problems with subfertility or infertility. Forty to fifty percent of all ectopic pregnancies are caused by genital Chlamydia infections (200-400 cases per annum).

## Effectiveness of screening

A national screening programme could be considered, in order to prevent new infections and detect existing infections that would otherwise have gone unnoticed due to the absence of symptoms. Several preconditions for effective screening have already been met.

Infections can be effectively treated by a single dose of azithromycin or a seven-day course of doxycycline. These medicinal products are 95% effective. Reliable diagnostic tests are now also available, involving the use of nucleic acid amplification tests on urine samples. Double-testing results in a detection rate of 90% to 95%. The use of pooled samples for diagnosis results in a low percentage of false-positive results (less than 1%), partly due to double-testing.

However, little is known concerning the effectiveness of screening in terms of reducing the complications associated with Chlamydia infections. Nevertheless, two

studies have shown that the incidence of PID among screened women was 50-56% less than in nonscreened women.

Furthermore, important data are lacking to assess which type of national screening programme would be most effective. There are two ways in which such general screenings can be carried out. They can be either systematic (everybody within a certain age group receives a written invitation) or opportunistic (which involves screening individuals who have had dealings with the health service in relation to an unrelated complaint, and who belong to the group that is eligible for such screening).

Both the systematic and opportunistic screening methods have their pros and cons. However, some aspects are still too poorly understood for them to be properly evaluated. For example, there is still some uncertainty concerning response percentages when people are invited to participate in screening by written invitation or when invited by their GP. Another unresolved matter is what constitutes a suitable interval between screenings. Repeated screening is necessary, since there is always the possibility of reinfection. Finally, there are questions relating the capacity of the primary healthcare service. GPs are, after all, involved in both types of screening. They are involved in systematic screening, since they will treat any individuals who test positive. In the case of opportunistic screening, it is they who suggest to patients that they should consider undergoing screening, and they who subsequently treat those for whom this proves necessary.

Experimental studies may help to diminish the above-mentioned uncertainties. The current experimental study by the Dutch Foundation for STD control into systematic screening will provide a more accurate picture of the prevalence of Chlamydia infections. This study is now in the final stages. In addition, there is a need for experimental studies into opportunistic screening.

### Cost effectiveness of screening

There are various types of models for estimating the cost effectiveness of Chlamydia screening. The most important difference concerns the period of time over which the screening programme is evaluated. Short periods are used for static models and medium-term periods for dynamic models. In both cases, the cost effectiveness of screening is dependent on the prevalence of infection. However, too little is known about the prevalence in different regions to reach a conclusion on cost effectiveness. Prevalence can vary between regions and also between cities and rural areas.

## Conclusion on screening in conjunction with an abortion procedure

One specific issue is whether women undergoing an abortion procedure should be screened for Chlamydia. The combination of Chlamydia and abortion carries an additional risk of complications. For this reason, all women attending abortion clinics are given antibiotics as a precautionary measure. This is not targeted at possible Chlamydia infections specifically, but at a wide range of microorganisms.

The Committee recommends that all women undergoing an abortion should continue to receive this medication, but they should also be screened for Chlamydia. The importance of this approach is twofold. Firstly it is the only way to achieve partner treatment, and secondly it is the only means of determining the prevalence of Chlamydia in this group. The data that has been gathered to date tends to indicate a high level of prevalence.

## Conclusion on national screening

On the basis of available data, there are still too few arguments to support a national screening programme for all men and/or women in a given age group. It is essential that research on effectiveness and cost effectiveness of screening in the Netherlands be extended, in order to rectify the gaps in our knowledge. More details are required concerning regional differences in levels of infection, and about the option of conducting an effective national screening programme via the Dutch Association of Municipal Health Services and GP practices.

A national screening programme can only be decided upon taking into consideration the results from studies carried out over an extended period of time. These results will have to be weighed against other results, such as those from the current experimental study by the Dutch Foundation for STD control. Only then will recommending the most effective and cost effective method of screening be possible.

It is vital that new studies be launched in the very near future. The Committee feels that it would be a great help if the minister was to take charge of steering matters in the right direction. Given the adverse health effects of undetected Chlamydia infections, together with the increased incidence of such infections in the population, it is vital that we find the best method of screening as soon as possible.

The Committee considers switching to a more active prevention policy as a matter of urgency, now that more research is required before a national screening programme can be decided upon. In the meantime, carers may be more vigilant, notably where mild and nonspecific symptoms are concerned. More regional screening programmes could be initiated and evaluated. Furthermore, high risk groups may be alerted through schools, GP's and information campaigns. Selective screening in clinics treating patients

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with sexually transmitted diseases should continue. Screening in abortion clinics and clinics treating patients with fertility problems is recommended.