

INFERTILITY PREVENTION PROJECT REGIONAL MANUAL & GUIDELINES – 2005

Developed by the Region X IPP Regional Advisory Committee

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Section I:

Introduction to the Region X Infertility Prevention Project

In 1988, a large-scale chlamydia screening demonstration project was initiated in Health and Human Services (HHS) Region X (Alaska, Idaho, Oregon, Washington). Introduction of chlamydia screening led to the reduction of *Chlamydia trachomatis* positivity rates among women attending family planning clinics by up to 60%. In 1993, the Centers for Disease Control and Prevention (CDC) expanded its chlamydia prevention demonstration projects to include federal HHS Regions III, VII, and VIII. Funding for this expansion was the result of legislation enacted by Congress (Preventive Health Amendments of 1992) that authorized activities for what is now known as the Infertility Prevention Program (IPP). The key components of the IPP as authorized by Congress in 1992 are:

- Screening women for disease and secondary conditions
- Providing treatment to women
- Providing counseling to women on prevention and control
- Providing follow-up services
- Providing partners of women with screening and treatment
- Providing outreach to inform women of services
- Providing the public with information and education about prevention and control and
- Training to health care providers.

Because resources were limited, CDC chose to phase in a national program of service delivery over several years. By 1996, 22 states had implemented screening and treatment programs in Title X family planning and STD clinics. By 1999, the program had expanded nationwide.

In 1992, CDC also entered into a memorandum of agreement with the Office of Population Affairs, the administrative agency for federal Title X family planning programs, to help organize the program. This partnership created one of the most distinctive features of the IPP by creating a regionally-based collaboration of state STD programs, Title X family planning and women's health programs, and the state public health laboratories. Representatives of these programs meet several times a year as a Regional Advisory Committee. Within each committee, the participants work together to formulate a common approach to the prevention of chlamydial infection and its sequelae. One focus within each regional infertility prevention program is on the expansion of screening and treatment services for women at risk. Although the long-term plan is to expand program activities beyond family planning and STD clinics, in many project areas there are still gaps in services to women being seen in family planning and STD clinics. Addressing this unmet need is one of the highest priorities. Where funds have been available, some programs have expanded screening and treatment to populations beyond STD and family planning clinics including prenatal clinics, school-based facilities, community health centers, adolescent health centers, Indian Health Service sites, and correctional facilities.

OVERVIEW OF THE DISEASE

Chlamydia trachomatis infection is considered to be the most prevalent reportable sexually transmitted disease in the United States. The wider availability of affordable, cost-effective laboratory diagnostic tests for chlamydia has allowed further exploration of the broad spectrum of disease caused by this organism. *C. trachomatis* is now recognized as the causative agent for a wide group of genital and neonatal infections, including many that were previously thought to be of unknown cause.

Chlamydial infections are among the most common reproductive tract infections health care providers see in men. It is estimated that *Chlamydia trachomatis* causes approximately 50 percent of reported cases of nongonococcal urethritis (NGU) among men. In most parts of the United States, chlamydia has an estimated incidence several times that of gonococcal urethritis. Chlamydia is also responsible for approximately 50 percent of the estimated 500,000 cases of acute epididymitis seen each year in the United States.

Even more important are chlamydial infections among women. *Chlamydia trachomatis* plays a significant role in causing mucopurulent cervicitis (MPC), acute pelvic inflammatory disease (PID), and maternal and infant infections during pregnancy and following delivery. Chlamydia accounts for one-quarter to one-half of the 1 million recognized cases of PID in the United States each year. These infections, in addition to sub-clinical *C. trachomatis* infections of the fallopian tube not clinically recognized as PID, contribute significantly to the increasing number of women who experience ectopic pregnancy or involuntary infertility. Approximately 17 percent of women treated for PID will be infertile; another 17 percent will experience chronic pelvic pain resulting from the infection. Ten percent of the women who do conceive after PID will have an ectopic pregnancy.

Besides its association with mucopurulent cervicitis and PID, chlamydia plays an important role in the urethral syndrome (dysuria-pyuria syndrome) and in perihepatitis (Fitz-Hugh-Curtis syndrome). Maternal chlamydial infection during pregnancy has been associated with preterm labor, premature rupture of membranes and postpartum endometritis.

Each year more than 155,000 infants are born to chlamydia-infected mothers. Almost two-thirds of the infants born vaginally to chlamydia-infected mothers become infected during delivery. These newborns are at high risk of developing inclusion conjunctivitis and pneumonia and are at slightly elevated risk of having otitis media and bronchiolitis. Chlamydia is the most common cause of neonatal eye infections and of a febrile interstitial pneumonia in infants less than six months of age.

Enormous cost is associated with chlamydial infections. Each year, more than \$2.4 billion is expended on these infections in the United States. Many of these costs result from the management of women with PID and its complications and from the management of infants hospitalized with chlamydial pneumonia. This estimated cost does not reflect the human suffering experienced by those with chlamydial diseases. Further growth in the economic burden of chlamydial infections will occur if these infections become more prevalent. Therefore, the legislation that funds this project emphasizes prevention services for women.

ETIOLOGY OF THE DISEASE

Chlamydia trachomatis (Ct) is a nonmotile, gram-negative bacterial pathogen with a two-phase life cycle. Once it invades a host cell, it is unable to synthesize its own adenosine triphosphate (ATP). Therefore, it uses exogenous energy resources (ATP) from the host cell to reproduce itself. This process occurs over 48-72 hours post exposure.

The infectious form of the organism is called the elementary body (EB); the EB attaches to and enters the host cell. The second phase of the life cycle begins when the EBs undergo a morphologic change and become metabolically active reticulate bodies (RBs). The RBs use host-derived ATP to replicate by binary fission. Up to several hundred progeny (offspring) are produced within a large inclusion; the inclusion may displace the entire cytoplasm of the host cell. These newly replicated RBs reorganize back into infectious EBs. The host cell ruptures and infectious particles are released to attack other cells. The life cycle is completed upon death of the host cell.

In females, the initial site of infection is usually the endocervical columnar epithelial cells. The presence of cervical ectopy (columnar epithelial cells on the ectocervix) increases susceptibility to CT infection. Ectopy can commonly be found among adolescents, pregnant women, and oral contraceptive pill (OCP) users. Infection leads to cervicitis in most women. Cervical infections may resolve spontaneously or continue as low-grade chronic infections with minimal signs of inflammation. Infections frequently ascend through the upper genital tract to involve the endometrium and fallopian tubes. The severity and the chronicity of chlamydia infections appear to be highly variable. Complications of untreated chlamydia infection in adult women include pelvic inflammatory disease (PID), ectopic pregnancy, and tubal infertility.

In males, infections usually remain localized to the urethra but can spread to cause epididymitis or prostatitis. Infections may resolve spontaneously but the natural course of untreated infection in men is not well known. Men are often asymptomatic and little screening occurs; men remain a large reservoir of infection in women.

PROJECT PRIORITY AREAS AND OBJECTIVES

Beginning in 2003, the Regional Advisory Committee developed a Regional Plan based on five national priority areas for the IPP. The Regional Plan follows the calendar year and as such provides a basis for related activities in each state/project area. In other words, the Regional Plan and the state IPP plans should have a connection.

At the July meeting of the RAC, the current Regional Plan is reviewed and revised as necessary to be operational in the coming year. The Regional Plan for CY2005 is available in the Resource Section.

Priority Areas

The following five areas are the priorities upon which the Regional Plan is built. As a region and as individual states we set objectives and activities under each priority in an effort to continue to meet the primary task of diminishing the prevalence of *Chlamydia trachomatis* in Region X.

1. **Target/expand chlamydia screening to young sexually active women and men at risk for infection in public and private settings.** Services should be expanded to sites that serve populations with known or expected high positivity. Sites can include traditional and non-traditional settings where young women and men access reproductive health care services. Examples of traditional settings might include Indian Health Service, migrant and community health centers, adolescent clinics, and school-based facilities. Non-traditional sites may include detention centers and homeless shelters.

2. **Incorporate analysis of regional prevalence monitoring data for regional and local data-directed program planning.** Data should help target chlamydia screening activities to assure that resources are being used in the most cost effective way and that adequate screening coverage is occurring for the highest risk populations of women.
3. **Improve appropriate and timely treatment for persons diagnosed with chlamydial infection and their partners.** Objectives should assure that adequate systems are in place to routinely monitor treatment timeliness and adequacy.
4. **Promote the use of high quality diagnostic tests for chlamydia.**
5. **Increase adoption of “best practice” prevention strategies to reduce efficiency of chlamydia transmission.** As new information is provided in this area, regional projects should address how to adopt best practice prevention strategies. Currently, several recent guidelines from CDC may assist this process including the *2002 STD Treatment Guidelines* and *2002 Screening Tests to Detect Chlamydia trachomatis and Neisseria gonorrhoeae Infections*.

SCREENING AND POSITIVITY IN REGION X IPP

The following table indicates the number of tests done in the IPP for 2003 and CT positivity, including females and males (primarily contacts of positive females). The first set of numbers represent the entire region, then by state, and then by clinic type (FP, STD, other).

MEASURE	TEST	POSITIVITY	TOTALS
SEX			
Females	136,860	5.4%	
Males	26,796	11.7%	
			163,656
STATES			
Alaska	13,941	10.3%	
Idaho	16,139	6.0%	
Oregon	56,289	4.6%	
Washington	77,619	7.2%	
			163,994
CLINIC TYPE			
Family Planning	109,049	5.7%	
STD	23,420	10.6%	
Other Expansion Sites	31,519	5.9%	
			163,988

INFERTILITY PREVENTION PROJECT ADVISORY COMMITTEE STRUCTURE

The Region X Infertility Prevention Project Advisory Committee comprises representatives from state family planning and STD programs and state public health laboratories within PHS Region X, which includes the states of Alaska, Idaho, Oregon, and Washington. It also includes participants from Public Health Seattle & King County, Multnomah County, and other Title X grantees. The Regional Advisory Committee (RAC) meets twice a year, usually January and July..

There are three subcommittees: Data, Laboratory, and Clinical Services. These committees also meet two times a year, as part of the RAC. These subcommittees, as well as designated workgroups and teams, guide the progress of the project.

**SEE APPENDICES FOR REGIONAL ADVISORY COMMITTEE
REPRESENTATIVES
AND SUB COMMITTEE MEMBERSHIP.**
