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article

# Epidemiology of genital warts in England and Wales: 1971 to 1994

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**Objective:** To describe the epidemiology of genital warts in England and Wales over the period 1971 to 1994.

**Method:** Retrospective study of available statistics.

**Results:** The rate of attendance for genital warts increased by 390% and 594% for men and women respectively between 1971 and 1994. Most of this increase occurred between 1980 and 1986. From 1986 to 1991 virtually no change occurred, but since 1992 the rate of attendance has risen by 15%. The ratio of male to female cases has declined steadily from 1.85 in 1971 to 1.34 in 1994. Rates of attendance for first attack in men were highest in the 20 to 24 year age group whereas for women it peaked in those aged 16 to 24 years. Regional data indicate that the rate of attendance has increased consistently over England and Wales during this period.

**Conclusions:** Rates of genital warts have risen substantially over the past 25 years. If these are a reflection of changes in sexual behaviour then the rise since 1992 is of considerable concern particularly for the incidence of cervical cancer in the coming decades.

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Keywords: genital warts; epidemiology; England and Wales

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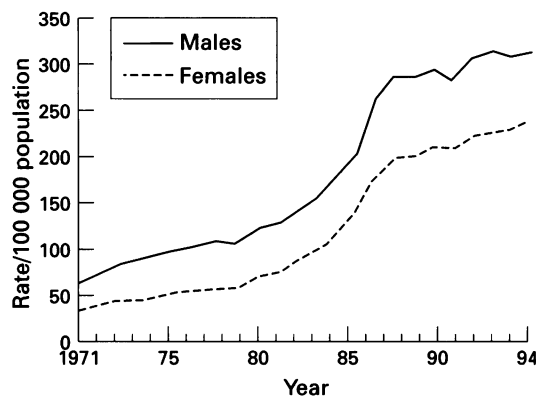


Figure 1 New cases of first attack and recurrent infection with genital warts in England and Wales, 1971 to 1994.

## Introduction

Changes in sexual behaviour will influence the incidence of sexually transmitted infections (STI).<sup>1</sup> This is particularly true for diseases, such as genital warts, for which no effective treatment is available or where the treatment may not necessarily interrupt the transmission of infection. The incidence of genital warts may thus be a marker of sexual behaviour including, for example, the success of intervention strategies. In this paper we describe the epidemiology of genital warts seen at genitourinary medicine (GUM) clinics over the period 1971 to 1994 and discuss their public health importance.

## Methods

Data for this study were supplied to the Department of Health and the Welsh Office from GUM clinics in England and Wales between 1971 and 1994. Two data sources have been used since the introduction of the genital warts diagnostic category in 1971, the SBH60 dataset and, since 1988, the KC60 dataset.<sup>2</sup> In the KC60 data, an age group breakdown is given together with separate categories for first attack and recurrent infections (a recurrent infection is a new episode of an existing infection). Attendance rates at GUM clinics for new cases have been calculated for each sex, by dividing the annual number of cases by the mid year resident population of England and Wales aged between 15 and 59 years which was obtained from the Office of National Statistics. Age specific attendance rates have been calculated using appropriated sex matched resident population data as a denominator, taking 15 and 59 as the lower and upper age cutoffs.

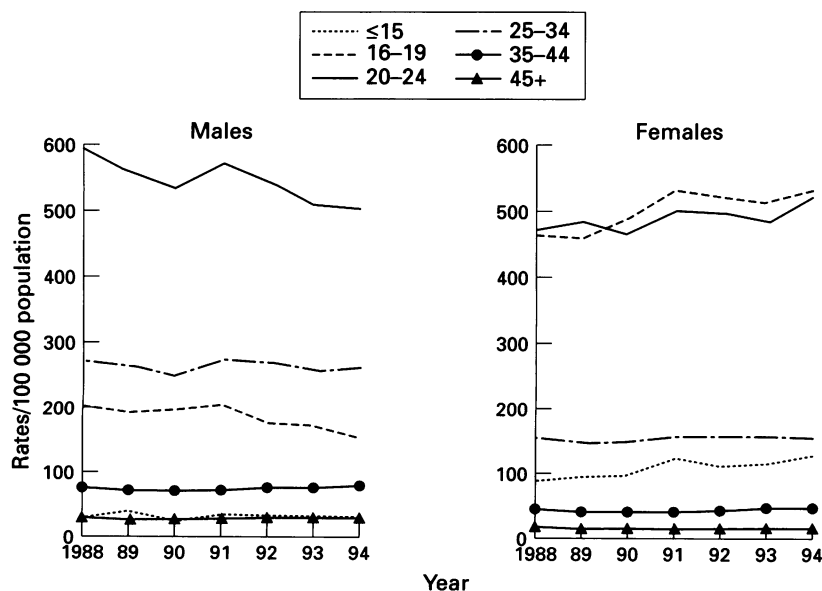


Figure 2 New cases of first attack of genital warts in England and Wales by age and sex: 1988 to 1994.

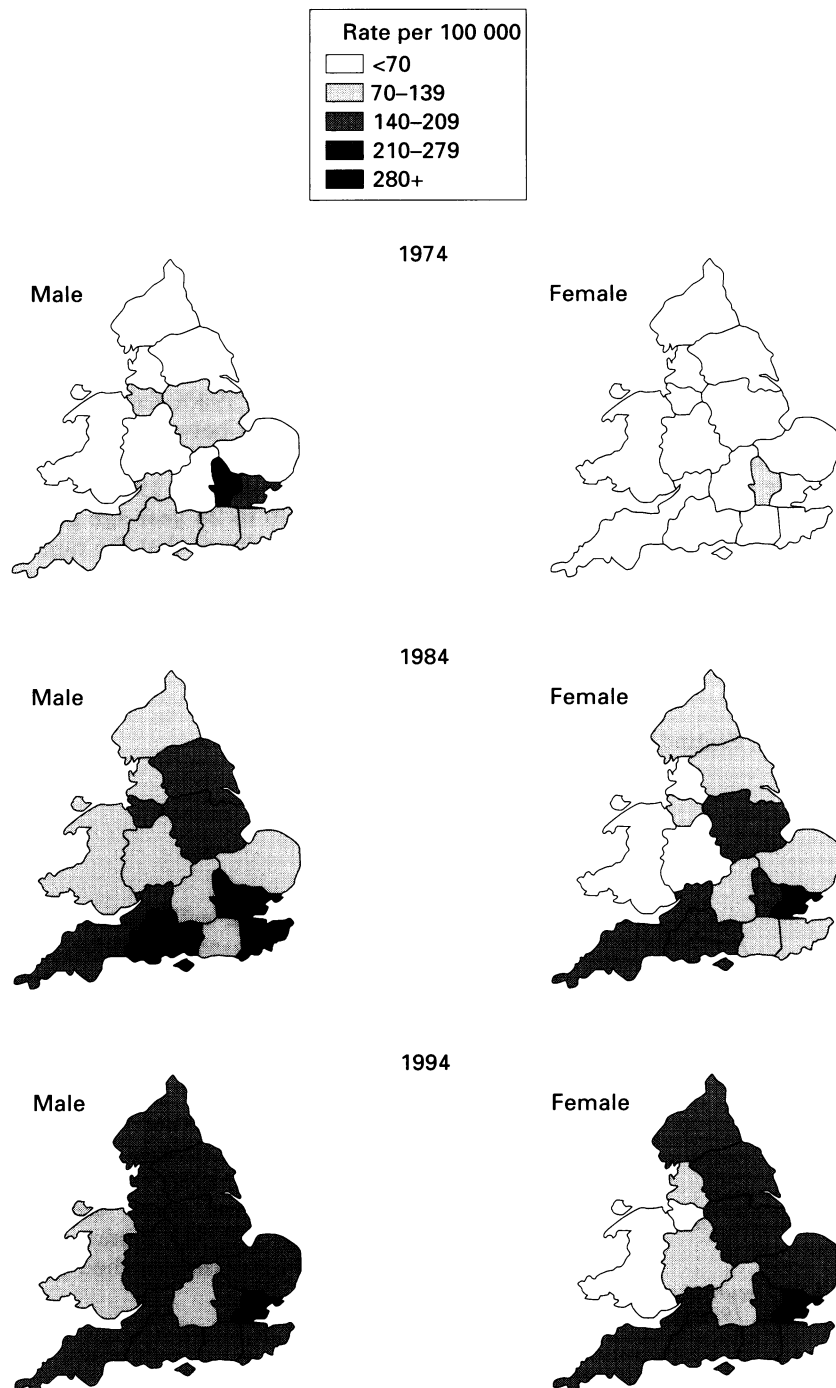


Figure 3 New cases of first attack of genital warts in England and Wales: 1974, 1984, and 1994.

### Results

First attack and recurrent infection with genital warts is the commonest STI seen in GUM clinics accounting for 11.8% (86 725/732 416) of new attendances in 1994.<sup>2</sup> The rate of attendance for genital warts increased by 390% (from 65 to 319 cases per 100 000) and 594% (from 35 to 243 cases per 100 000) for men and women respectively between 1971 and 1994 (fig 1). Most of the increase occurred in the period 1971 to 1988. Rates remained unchanged until 1992 after which a further rise of 15% occurred. The ratio of male to female cases has declined from 1.85 in 1971 to 1.34 in 1994.

Over the period from 1988 to 1994 rates of attendance for first attack in men were highest in the 20-24 year age group (fig 2). In con-

trast, the rate of attendance in women rises steeply to peak in the 16-19 year age group, remains stable in those aged 20-24 years, and then declines rapidly. Regional data for the years 1974, 1984, and 1994 indicate that over this 20 year period the prevalence of infection in all regions of England and Wales has increased (fig 3). The highest prevalence is found in the North Thames regions.

### Discussion

A dramatic increase in the rate of attendance, particularly among women, for first attack and recurrent infection with genital warts occurred between 1971 and 1994, similar to that seen for attendance rates for genital herpes simplex virus infection (HSV).<sup>3</sup> The stabilisation in the prevalence of genital warts between 1988 and 1991 may reflect changes in behaviour brought about in response to the HIV epidemic. The subsequent rise in the rate of both male and female attendances for first attack and recurrent infections for genital warts is of concern and may indicate that these behavioural modifications have not been sustained. Recent rises in the incidence of gonococcal infection in young homosexual men have been attributed to a reversal in the behavioural changes brought about in response to the HIV epidemic.<sup>4,5</sup> However, since the data are based on attendances at GUM clinics, it could also reflect changes in the rates of health seeking behaviour. This, in turn, could reflect the willingness of primary care to refer and clinics to treat as well as the public and professional perception of the cosmetic acceptability and health implications of genital warts.

Human papilloma virus (HPV) types 6 and 11, which are not oncogenic, are most commonly associated with genital warts.<sup>6</sup> A small proportion of genital wart cases are associated with HPV16, 18, 31, and 33 which are found in the majority of cervical cancers, although evidence of direct causation is incomplete.<sup>7</sup> Women with a history of genital warts are more likely to have "abnormal" smears than other GUM clinic attenders, so the continued rise in the prevalence of genital warts has implications for the later development of anogenital malignancies.<sup>8</sup> The cervical screening programme has reduced the incidence of cervical cancer.<sup>9</sup> Notwithstanding this, an increase in this disease may be already evident in those aged between 30 and 39 years who are likely to have been exposed to HPV during the late 1970s.<sup>10</sup>

Public awareness of genital warts has increased substantially in recent years and this has important public health and service work load implications. Although no target for genital warts was set in the *Health of the Nation*,<sup>11</sup> the rise in attendance for first attacks of genital warts and the high level of infection seen in adolescents, particularly young women, is of concern in view of potential future risk of cervical cancer.

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- 1 Anderson RM, May RM. *Infectious diseases of humans*. Oxford: Oxford University Press, 1992.
- 2 *Sexually Transmitted Diseases, England 1995*. New cases seen at NHS genitourinary medicine clinics. London: Department of Health, 1995.
- 3 CDSC. Sexually transmitted diseases quarterly report: genital warts and genital herpes simplex virus infection in England and Wales. *Commun Dis Rep CDR Wkly* 1996; 6:304-5.
- 4 Evans BG, Catchpole MA, Heptonstall MA, Mortimer JY, McGarrigle CA, Nicoll AG, *et al*. Sexually transmitted diseases and HIV-1 infection among homosexual men in England and Wales. *BMJ* 1993;306:426-8.
- 5 Catchpole MA. Sexually transmitted diseases in England and Wales: 1981-1990. *Commun Dis Rep* 1992;2:R1-7.
- 6 De-Villiers E. Human pathogenic papillomavirus types: an update. *Curr Top Microbiol Immunol* 1994;186:1-12.
- 7 Schiffman MH, Bauer HM, Hoover RN. Epidemiologic evidence showing that human papillomavirus infection causes most cervical intraepithelial neoplasia. *J Nat Cancer Inst* 1993;85:958-64.
- 8 British Co-operative Clinical Group. Cervical cytology screening in sexually transmitted disease clinics in the United Kingdom. *Genitourin Med* 1987;63:40-3.
- 9 Sasieni S, Cuzick J, Farmery E. Accelerated decline in cervical cancer mortality in England and Wales. *Lancet* 1995;346:1566-7.
- 10 Office of Population and Surveys. *Cancer Statistics registrations*. London: HMSO, 1988:58-67.
- 11 *The Health of the Nation*. London: HMSO, 1991.