confirmed, with on average 48% of men and 54% of women dying within 28 days of its onset. Although there is some variation among populations in case fatality in both men and women, the results refute the suggestion that high death rates from coronary heart disease death are associated with higher case fatality or a relative excess of sudden deaths. Because official death certificates were validated against standard definitions and criteria, light has been shed on the relative rankings of countries. For example, while France ranks rather higher than it would if only the official mortality data were used, its rates of coronary heart disease are consistent with those of other mid-latitude and southern European centres. More than one in five (22%) of all deaths from coronary heart disease were unclassifiable according to the MONICA project's categories of definite or possible, and this is largely explained by official restrictions concerning confidentiality. The problem of classification is likely to be far greater in older people, many of whom are already frail or have other diseases.

Results from the first cross sectional surveys of cardiovascular risk factors in these populations have been published.⁸ These show widespread variation among populations, which is likely to have a bearing on rates of cardiovascular disease.⁹ Data from grouped centres show the wide differences in event rates compared with case fatality,¹⁰ and data from individual centres indicate the close association of trends in risk factors and mortality.¹¹

This painstaking epidemiological process has trained a new generation of investigators into cardiovascular disease and developed a method that is available to others for measuring changes in cardiovascular events in a standard manner. Internationally, a strong and enduring collaborative research and educational network has been developed and maintained over 15 years. Nationally, MONICA project collaborating centres have become the main focus for activities directed at preventing cardiovascular disease, and data from the project have been used for evaluating the effectiveness of programmes. The project's methods have been used in several developing countries to define baseline risk factor profiles, assess the incidence of disease, and determine priorities for action.¹² Even so, data from some developing countries are urgently required to map the possible emerging epidemic.

The real value of the MONICA project is yet to come. The study was, after all, designed to investigate longitudinal trends within populations and assess not only the extent to which these are related to changes in known risk factors but also the patterns of acute coronary care measured at the same time in these defined populations. Given the complexity of the project, the data required to relate trends in risk factors and event rates will not be available for at least five years, although most centres have already completed their monitoring activities. Resources must be found to ensure the timely analysis and publication of these data. There is a desperate need for permanent monitoring of trends in cardiovascular disease and its determinants for defined populations, including higher age groups, in selected populations worldwide. The MONICA project provides a firm foundation for this longer term task.

RUTH BONITA

Masonic senior research fellow

Department of Medicine,
North Shore Hospital,
Private Bag 93503,
Takapuna,
New Zealand

- 1 World development report: investing in health. Oxford: Oxford University Press, 1993.
- 2 Uemura K, Pisa Z. Trends in cardiovascular disease mortality in industrialized countries since 1950. *World Health Stat Q* 1988;41:155-78.
- 3 Havlik RJ, Feinleib M, eds. *Proceedings of the conference on the decline in coronary heart disease mortality, October 24-25, 1978*. Washington, DC: National Heart, Lung and Blood Institute, US Department of Health, Education and Welfare, 1979. (NIH publication No 79-1610.)
- 4 World Health Organisation Regional Office for Europe. *Myocardial infarction community registers*. Copenhagen: WHO, 1976. (Public health in Europe report No 5.)
- 5 World Health Organisation MONICA Project. A worldwide monitoring system for cardiovascular disease. *World Health Statistics Annual* 1989;27:149.
- 6 Asplund K, Tuomilehto J, Stegmayr B, Wester PO, Tunstall-Pedoe H. Diagnostic criteria and quality control of the registration of stroke events in the MONICA project. *Acta Med Scand* 1988;suppl 728:26-39.
- 7 World Health Organisation MONICA Project. Myocardial infarction and coronary deaths in the World Health Organisation MONICA project: registration procedures, event rates and case fatality in 38 populations from 21 countries in four continents. *Circulation* 1994;90:583-612.
- 8 World Health Organisation MONICA Project. Geographical variation in the major risk factors of coronary heart disease in men and women aged 35-64. *World Health Stat Q* 1988;41:115-40.
- 9 The World Health Organization MONICA Project. Ecological analysis of the association between mortality and major risk factors of cardiovascular disease. *Int J Epidemiol* 1994;23:505-16.
- 10 Lowel H, Dobson A, Keil U, Herman B, Hobbs MST, Stewart A, et al. Coronary heart disease case fatality in four countries: a community study. *Circulation* 1993;88:2524-31.
- 11 Vartiainen E, Puska P, Pekkanen J, Tuomilehto J, Jousilahti P. Changes in risk factors explain changes in mortality from ischaemic heart disease in Finland. *BMJ* 1994;309:23-7.
- 12 Boedhi-Darmojo R, Setianto B, Sutetjo, Kusmana D, Andradi, Supari F, et al. A study of baseline risk factors for coronary heart disease: results of population screening in a developing country. *Rev Epidemiol Sante Publique* 1990;38:487-91.

How to lose the fight against AIDS among gay men

Declare victory and leave the field

News from the AIDS front has not been good lately. Data describing the efficacy of biomedical efforts either to cure AIDS or to prevent the disease through use of vaccines are not encouraging. The realisation has been spreading within gay male communities that we are fated to live with the continuing consequences of the AIDS epidemic for the indefinite future, and perhaps for the rest of our lives. The best hope of gay communities for surviving the epidemic in some relatively intact form depends on efforts to support consistent safe sex over indefinite periods of time.

Unfortunately, evidence concerning the efficacy of efforts to support the maintenance of exclusive safe sex among gay men throughout the population over long periods is also disheartening. Studies from several different cities around the world have described widespread patterns

of inconsistent safe sex over time (R Gold, second international conference on AIDS impact, Brighton, 7-10 July 1994)¹⁻³ as well as an increased prevalence of rectal gonorrhoea⁴ among gay and bisexual men. Perhaps most worryingly, the prevalence of HIV seropositivity among gay men in San Francisco aged 26-29 in 1993 approached that among men aged 26-29 in 1984—a level reflecting sexual risks taken before the threat of AIDS was recognised (W Winkelstein *et al*, IX international conference on AIDS, Berlin, 6-11 June 1993).

These findings raise a set of disturbing questions: is the gay male community losing ground against AIDS owing to the difficulty of sustaining sexual safety? will the next generation of young gay men experience rates of HIV seropositivity rivalling those of gay men who came of age

before the AIDS epidemic was discovered? what do we really know about how we should support populationwide behavioural changes so that they remain relatively permanent?

Although these troubling questions lack answers, we have learnt some lessons about how not to support long term reduction in behavioural risks among gay men. These lessons have derived from our willingness to accept without challenge the following working assumptions in the design and implementation of AIDS prevention programmes among gay men.

The way to stop the AIDS epidemic among gay men is to get them to start having safe sex—Initiating and maintaining behaviour to reduce risk differ qualitatively. In other words, it is easier to start a diet than to stay on one. Except in some important subcommunities of gay men, survival during the AIDS era is no longer about starting to have safe sex; it is about maintaining safe sex. Efforts aimed at prevention that ignore the maintenance of safe sex will not stop the disease spreading.

Raising knowledge about AIDS helps people to lower their risk of HIV infection—Most prevention campaigns designed for gay men are based on the assumption that raising levels of knowledge about how AIDS is transmitted will change behaviour. This assumption is not well supported by data concerning change in other behavioural risks to health, especially when sexual behaviour is involved. Interventions must address the contexts in which high risk sex occurs.

Safe sex strategies are passed down from one generation of gay men to the next—As generations come of age they typically construct their identities as members of a new social group. This process also defines who is not a member of the new group—the “don’t trust anyone over 30” phenomenon. Young gay men are now struggling with the contradictory legacy left them by men who came of age during the pre-AIDS era: they are heirs to both the gay liberation movement and AIDS. As new generations of gay men come of age strong pressures exist to accept the positive inheritance of the gay liberation movement and to deny the threat of AIDS as something that affected only the previous generation. This understandable tendency is increased when prevention programmes fail to involve young gay men in devising ways of surviving the epidemic that they will find useful.

The gay male community is white and middle class—The demographic and ethnic diversity found in the gay male community is striking: homosexually active men are drawn from every social class, all age strata after puberty, and every cultural tradition. To design prevention efforts as if all men who have sex with other men are middle class, well educated, and past the age of 21 and have identified themselves as gay precludes interventions from reaching groups at perhaps the highest risk of infection: men who are young, not white, or of lower social class.

Once an AIDS intervention programme has been shown to be effective it can continue indefinitely without much change—A complex interplay now exists between gay culture and the AIDS epidemic: shockwaves from the maturing epidemic have profoundly shaped gay culture over the past decade, and the way that gay culture adapts to these stresses will affect the future course of the epidemic. This process

means that interventions based on understandings of gay culture as it existed during the early years of the AIDS epidemic may not yield many behavioural effects now.

Once behavioural change has been detected among gay men, efforts at prevention can then shift to other populations at risk—By the mid-1980s falling indices of behavioural risk among gay men indicated that they had made the most profound response to a health education campaign ever detected.⁵ Ironically, it then became difficult to argue the need to expand and modify preventive programmes to support long term behavioural change among gay men as other at risk communities had yet to exhibit much in the way of initial risk reduction. Competition for scarce funds for prevention (combined with the reluctance of funding agencies to deal with gay sexuality) translated into dangerous underfunding of prevention efforts for gay men. Thus by the early 1990s in California the gay male community accounted for nearly 85% of deaths from AIDS in the state but received only about 8% of state funding for prevention,⁶ a pattern that also seems to exist in England.⁷ AIDS prevention programmes for gay men cannot work if they are expected to be the primary defence against the epidemic while being given only a small fraction of the funds available for prevention. The tendency to declare victory in the fight against AIDS and then to leave the field has been a disaster for gay male communities.

Western societies can either support efforts to promote long term sexual safety within gay communities now or pay for the medical care of dying men later. Worse, the costs of the AIDS epidemic among gay men will be more than financial. The continuing diminution of the contributions of men at the height of their productive lives will be an incalculable and irreplaceable loss. Refusal to sustain preventive efforts within gay male communities will not only inflict on our medical care systems an increasing caseload of dying patients for which they are ill equipped to care but also dehumanise our societies. If we do not find ways to support efforts to promote the long term reduction of risk among gay men—change supported across new generations and subpopulations—we risk losing the fight against AIDS among gay men.

RON STALL
Associate professor

Center for AIDS Prevention Studies,
University of California,
San Francisco CA 94105,
USA

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1 Stall R, Ekstrand M, Pollack L, McKusick L, Coates T. Relapse from safer sex: the next challenge for AIDS prevention efforts. *Journal of AIDS* 1990;3:1181-7.

2 Adib S, Joseph J, Ostrow D, Margalit T, Schwartz S. Relapse in sexual behavior among homosexual men: a 2-year follow-up from the Chicago MACS/CCS. *AIDS* 1991;5:757-60.

3 De Wit J, van Griensven G. Time from safer to unsafe sexual behavior among homosexual men. *AIDS* 1994;8:123-6.

4 De Wit J, van der Hock J, Sandfort T, van Griensven G. Increase in unprotected anogenital intercourse among homosexual men. *Am J Public Health* 1993;83:1451-3.

5 Stall R, Coates TJ, Hoff C. Behavioral risk reduction for HIV infection among gay and bisexual men: a review of results from the United States. *Am Psychol* 1988;43(II):878-85.

6 Lee P, Franks P, Haynes-Sanstad K, Begay M, Bucardo J, Chan M, et al. *HIV prevention in California: final report—HIV education and prevention evaluation*. San Francisco: Office of AIDS, California Department of Health Services, 1993.

7 Rooney M, Scott P. Working where the risks are: health promotion interventions for men who have sex with men in the second decade of the HIV epidemic. In: Evans B, Sandberg S, Watson S, eds. *Working where the risks are: issues in HIV prevention*. London: Health Education Authority, 1992:13-65.