

OREGON PUBLIC HEALTH DIVISION • DEPARTMENT OF HUMAN SERVICES

A LOOK AT HIV PREVENTION STRATEGIES IN OREGON

The Joint United Nations Program on HIV/AIDS recently reduced worldwide HIV prevalence estimates by 15%, and now reports that HIV incidence peaked around 1998. Only 2.5 million incident infections are expected worldwide this year. Oregon contributes a (thankfully) modest 300 (see Figure), and with treatment, each new patient can look forward to decades of vitality.¹

Remarkable! And costly. Average estimated lifetime direct medical costs exceed \$168,000. Including productivity loss more than quadruples that number.² In Oregon alone, the Health Resources and Services Administration spends \$12 million each year to subsidize care for about a third of Oregon's 5000 – 6000 people living with HIV/AIDS. By comparison, the Centers for Disease Control and Prevention invest a modest \$3 million each year in HIV prevention in Oregon. These dollars are put to use by state and local public health agencies and non-governmental organizations in a variety of 'best practice' prevention strategies. This *CD Summary* reviews 5 interventions intended to reduce HIV incidence, and estimates infections averted.

METHODOLOGY

We used a probabilistic approach developed by Cohen and Farley³ that models reduction in expected cases (i.e. cases averted) from average pre- and post-intervention estimates of: 1) number of partners; 2) frequency of sex or drug injection; 3) proportion of sex or drug interactions in which a condom or clean needle is used; 4) type of interaction (e.g., anal or vaginal intercourse, shared injection paraphernalia); and 5) probability of transmission for each type of interaction.³ We based estimates of these factors on data when available and "best guess" of experts otherwise.

N.B.: results presented here are only as good as the assumptions.

RESULTS

Overall, the 5 prevention programs described here avert from 25 to 85 incident HIV cases each year.

COMMUNITY PROMISE

Community Promise is a social marketing campaign underway primarily in the Portland metropolitan area. This approach gathers information from the target population—gay men who are HIV infected or at high risk for HIV infection because of unprotected anal intercourse—and develops social marketing materials, such as posters and brief role model stories. The marketing campaign is then delivered by peer advocates, who initiate conversations about managing HIV risk in bars, adult video stores and other common liaison sites. *Community Promise* is projected to avert 49 cases per year if it achieves its goal of reaching up to 5,000 high-risk men whose HIV prevalence is 20%. However, this effectiveness estimate is very sensitive to our assumptions; if the peer advocates only reach 500 men and HIV prevalence is assumed to be 10%, the model projects that *Community Promise* averts only a few cases per year.

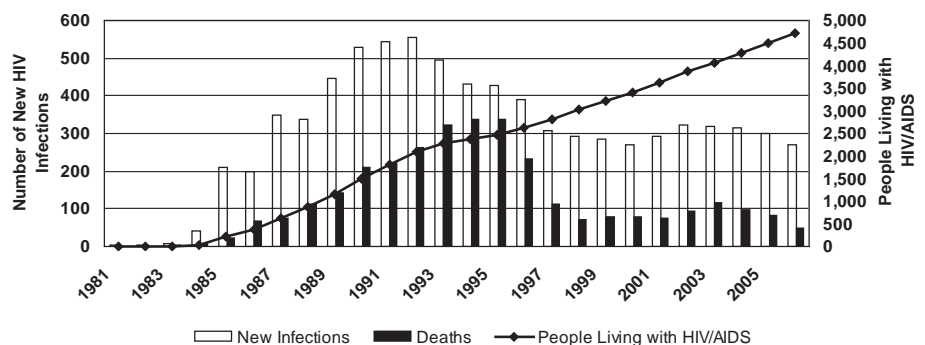
HIV TESTING

The role of HIV testing in prevention might not be obvious at first. It is important to know that an estimated 25% of HIV positive people have not been tested and diagnosed, and that most people once they know they are positive, immediately change their risky behaviors. That is, they reduce the frequency of sexual encounters, number of partners and acts of unprotected sex. In addition, their transmission risk decreases further once antiviral therapy is started and their HIV viral load decreases. Therefore, we estimate that the approximately 20,000 HIV tests in Oregon probably avert over 20–33 new infections a year.

PARTNER COUNSELING AND REFERRAL

Partner Counseling and Referral (aka 'partner notification') has a long history in control of syphilis and gonorrhea, but has only recently been more systematically used to control secondary HIV spread and to find new cases among partners of people newly diagnosed. Approximately 80–100 people with newly diagnosed HIV infection accept an offer of assistance with partner notification in Oregon each year. Of every 100 new case-patients who receive these services, approximately 14 additional

Figure 1. Oregon HIV/AIDS Diagnoses and Deaths, 1981–2006





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cases are newly identified among their sex and needle-sharing partners, probably months to years before the natural course of events might have led them to be diagnosed. Through resultant behavior change, 1–2 new infections are averted each year. Per client served, new case finding by partner notification and testing is much more efficient than HIV testing of unselected clients.

NEEDLE EXCHANGE

Oregon was among the first states in the nation to establish legal access to sterile needles for people who use injection drugs. Needle exchange probably reduces HIV incidence among people who use injection drugs by at least a third. Local health departments and non-governmental organizations in Oregon exchange approximately three million syringes in use by >4,000 people. Perhaps as a consequence, HIV prevalence among people who inject illicit drugs in Oregon, while higher than the non-drug-using population, remains relatively low. We estimate that presently 1–2 HIV cases are averted through needle exchange each year. However, the model allots no credit for needle exchange's ongoing and substantial role in sustaining low incidence among people who inject drugs.

COMPREHENSIVE RISK COUNSELING SERVICES

Comprehensive Risk Counseling Services (CRCS) is also known as "prevention case management." It consists of group and individual

counseling and education for HIV-infected people who have multiple, complex social and psychological problems and are having difficulty modifying their HIV risk behaviors. Counseling is often ongoing and long-term, but some clients receive as few as one session. CRCS is provided by social workers through a community-based organization to 100–200 people annually statewide. Most services are provided in the Portland metropolitan area. Proponents of CRCS believe that addressing social and emotional needs leads to more self-protective, less transmission-risky behavior and lowered HIV transmission. Though it is an important resource to its clients, in terms of new cases averted, CRCS probably averts fewer than a single case each year, simply because of the small size of the target population.

OTHER INTERVENTIONS

Three ongoing interventions are not reviewed here because we believe we have yet to develop plausible estimates for all necessary model assumptions to apply the Cohen and Farley model: "HIV Stops With Me," a social marketing campaign aimed at reducing risky behavior among HIV-positive people and others at high risk of transmission; "Oregon AIDS Hotline," a statewide telephone service providing support and referral; "Test Because You Matter," a social marketing campaign encouraging testing in people at high risk of infection.

DISCUSSION

HIV prevention in Oregon works. Under optimistic estimates, we'll prevent 85 new infections in the coming year and—at \$168,000 per case in lifetime medical costs saved—save over \$14 million, exceeding the annual overall public investment in prevention. Even the worst-case scenarios presented here indicate that we will prevent 25 people from becoming infected annually. While we acknowledge the inherent artificiality of attempts to isolate and quantify HIV preventive interventions applied in the real world, we believe in being good stewards of the public's dollars and that evaluating what we are getting for our money is important for policy. That said, most interventions cannot be implemented in isolation: one size doesn't fit all. Prevention is more a matter of finding just the right weave for the net.

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