

# THE IMPACT OF TOBACCO IN HUMBOLDT COUNTY

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Department of Health and Human Services  
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This report was prepared by Daniel Chandler, Ph.D., under contract with the Public Health Branch of the Humboldt County Department of Health and Human Services using funds provided by the Humboldt County Board of Supervisors. The recommendations were developed and endorsed by the Humboldt Del Norte Unit of the American Cancer Society; the Tobacco Education Network (TEN) Community Coalition; and the Humboldt County Department of Health and Human Services, Public Health Branch, Tobacco Education Program.

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Technical readers of this report may also wish to obtain a set of detailed appendices by calling (707) 268-2132. The appendices contain details on methodology as well as confidence intervals for the numbers presented in the report itself.

This report and the appendices are also available in Acrobat Reader PDF format on the Department of Public Health website: <http://www.co.humboldt.ca.us/health/>

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### **POLICY OF NONDISCRIMINATION ON THE BASIS OF DISABILITY AND EQUAL EMPLOYMENT OPPORTUNITY STATEMENT**

**AMERICANS WITH DISABILITIES ACT:** The county does not discriminate on the basis of disability in services, programs, activities or employment. Persons with disabilities requiring special assistance or accommodation contact Peggy Falk (707) 268-2132.

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- APPENDIX I: METHOD FOR CALCULATING TOBACCO-RELATED DEATHS AND HOSPITAL DISCHARGES
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# EXECUTIVE SUMMARY

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## TOBACCO-RELATED DEATHS IN HUMBOLDT COUNTY

One fifth of all Humboldt County deaths are due to tobacco—more deaths than from homicide, suicide, driving while impaired, alcohol, illegal drugs, and AIDS combined.

One third of the Humboldt County tobacco-related deaths in 1998 were due to cancer; another third were due to cardiovascular disease; and the final third were due to respiratory disease.

## HOSPITAL EPISODES AND COSTS

In 1998 there were 13,947 hospital discharges in Humboldt County. A total of 930 hospital episodes (7 percent of the overall total) were tobacco-related based on the primary diagnosis; if the secondary or other diagnoses are included, there were 3,524 tobacco-related episodes (25 percent of the total).

Hospital charges for tobacco-related primary diagnosis episodes increased sharply from \$6 million in 1991 to \$20 million in 1998; if secondary or other diagnoses are included, tobacco-related charges increased from \$26 million to \$75 million.

State and federal insurers paid most, but the county medically indigent fund (CMSP) was charged \$3.5 million for tobacco-related hospital care in 1998.

## NEW CANCERS IN HUMBOLDT RESIDENTS

There were 560 new tobacco-related cancers diagnosed in Humboldt residents in 1996-98. The rate for females is high compared to other similar counties.

## IMPACT OF TOBACCO ON YOUTH

The most recent Healthy Kids survey showed 16 percent of 9<sup>th</sup> graders and 22 percent of 11<sup>th</sup> graders used cigarettes or other tobacco products within the previous 30 days.

Extrapolating from the survey to all Humboldt County youth, over 7,000 Humboldt County youth have already been introduced to tobacco:

· Number of 7 <sup>th</sup> –12 <sup>th</sup> grade students who have tried tobacco products:	4,039
· Number of 7 <sup>th</sup> –12 <sup>th</sup> grade students who have used tobacco products in previous 30 days:	1,403
· Number of 7 <sup>th</sup> –12 <sup>th</sup> grade students who have smoked “regularly”	1,235
· Number of 7 <sup>th</sup> –12 <sup>th</sup> grade students who smoked “daily” in the past 30 days	477

Eighty-eight percent of 11<sup>th</sup> grade students report getting cigarettes is “easy.”

Sixty-two percent of students who smoke have tried to quit; 37 percent have tried more than one time.

## EFFECTS ON PREGNANT WOMEN

Of 664 women seen for prenatal care by Women Infants and Children (WIC) in 1999-2000, 20 percent smoked at least one cigarette a day. A full 28 percent of the school-aged teens seen at WIC smoked. Including second-hand smoke, 23 percent of pregnant women are exposed to tobacco smoke.

Eighteen percent of 502 neonatal risk summary forms filled out by nurses in July-December 2000 at delivery show the mother entered pre-natal care as a smoker; 20 percent of these mothers stopped smoking during the pregnancy.

Risk summary forms indicate that pregnant women who smoke are vulnerable in many ways.

For example:

- 44 percent of women with less than a high school education used tobacco versus 14 percent of those with high school or above.
- 53 percent of women having had three or more births used tobacco versus 15 percent of those with fewer previous births.
- 70 percent of women with a history of alcohol abuse used tobacco versus 12 percent of those who did not have such a history.
- 49 percent of mothers who had a history of being a domestic violence victim used tobacco versus 13 percent of those with no such history.

Mothers of young children want to reduce their kids' exposure to secondhand smoke. In the Perinatal Outreach Education Tobacco Cessation Project 70 percent want to reduce exposure, but only 12 percent have received cessation services.

## CURRENT ADULT TOBACCO USE IN HUMBOLDT COUNTY

A telephone survey of Humboldt County residents over the age of 18 was conducted in May of 2001 by the Social Science Research Center at California State University, Fullerton. The survey was commissioned by the Public Health Branch Tobacco Education Program. Survey results indicate 21 percent of adults currently smoke cigarettes. The smoking rate among Humboldt County adults with less than a high school education was 42 percent, or double the overall rate. Most smokers had started by age 16 and a majority of smokers indicated they would like to stop.<sup>1</sup>

## RECOMMENDATIONS FOR ACTION

Humboldt county's Tobacco Education Network (TEN) Community Coalition developed the following recommendations in response to the information in this report.

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<sup>1</sup> Further findings and the methodology are presented in a Technical Report. It is available on the Humboldt County website or may be requested by calling (707) 268-2132.

# TEN RECOMMENDATIONS FOR TOBACCO USE PREVENTION AND CESSATION

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The ten recommendations for increasing prevention and cessation efforts listed below have been endorsed by the Tobacco Education Network Community Coalition, the Humboldt Del Norte Unit of the American Cancer Society, and the Humboldt County Department of Health and Human Services - Public Health Branch - Tobacco Education Program.

1. The Humboldt County Public Health Branch, medical providers, hospitals and the American Cancer Society should collaborate to make culturally appropriate tobacco cessation programs available to every tobacco user throughout the county including programs for special populations such as: pregnant women, parents of young children, teens, and those in treatment for alcohol and other drug use.
2. All schools should provide all students in kindergarten through 12<sup>th</sup> grade with effective, research-based tobacco use prevention education and should enforce all public school education code tobacco use restrictions.
3. The Public Health Branch should conduct ongoing media campaigns to de-glamorize tobacco use; encourage parents and community leaders to promote strong, tobacco-free family and community standards; promote cessation; and encourage protection from secondhand tobacco smoke.
4. The police and Sheriff's departments should actively enforce all tobacco laws, including laws requiring smoke-free workplaces and prohibiting the sale of tobacco to minors.
5. All medical and dental providers, schools, and agencies that serve families should provide education on eliminating exposure to secondhand tobacco smoke.
6. All medical and dental providers should identify their patients who use tobacco, advise patients to quit, and refer them to cessation programs.
7. The Humboldt County Department of Health and Human Services, and all other community social service agencies, should incorporate tobacco prevention and cessation intervention and referral into all social service programs.
8. Humboldt State University and College of the Redwoods should incorporate tobacco prevention and cessation education into training programs for teachers, counselors and medical professionals.
9. The Public Health Branch should encourage all public agencies and private organizations to adopt policies prohibiting the acceptance of funds or support of any kind from any entity whose principal business is tobacco products
10. All incorporated cities and the county should enforce signage restriction laws (particularly as they apply to tobacco advertising), reduce tobacco advertising and promotion in areas frequented by minors, eliminate self-service tobacco sales, and require licenses for tobacco retailers.

# INTRODUCTION



# INTRODUCTION

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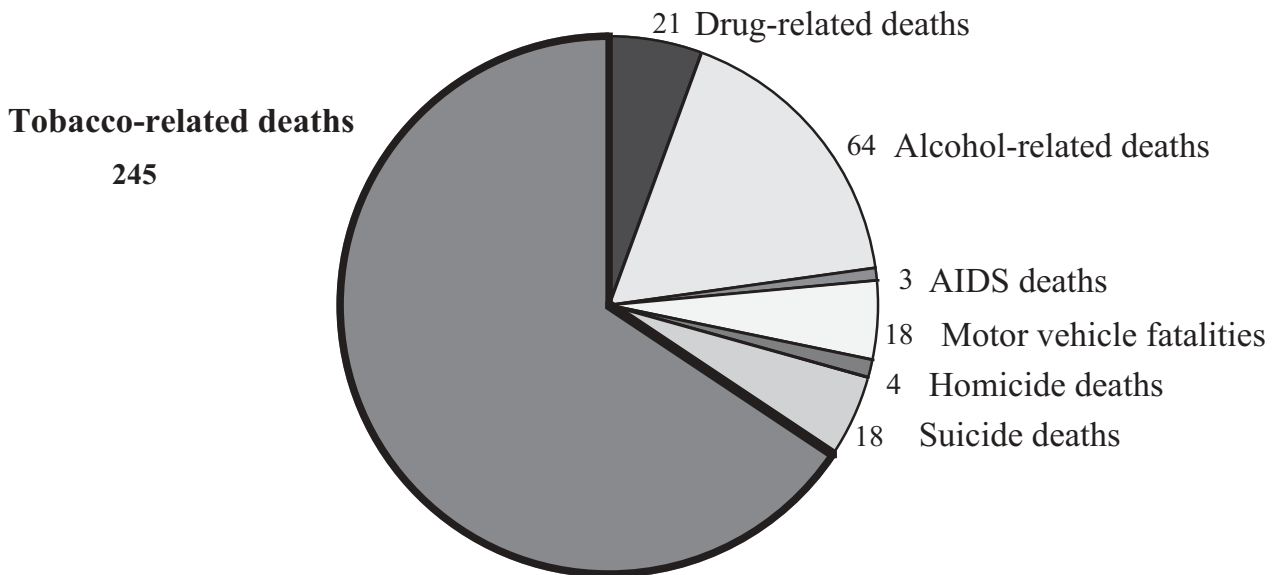
How many people use tobacco in Humboldt County?

A 2001 survey of Humboldt County adults found 21 percent of Humboldt County adults currently smoke cigarettes.<sup>2</sup> The overall rate for adult smoking in the state of California is 18 percent. The smoking rate among Humboldt County adults with less than a high school education was 42 percent, or double the overall rate. Most smokers had started by age 16. As presented later in this report, recent school data shows 22 percent of 11<sup>th</sup> graders and 16 percent of 9<sup>th</sup> graders used tobacco in the previous 30 days.

How does tobacco use hurt Humboldt County?

Out of every five Humboldt County residents who die each year, one will die of an addiction that he or she began as a child—tobacco. Tragically, for those who die and for their families and friends, most of these deaths are preventable. Smoking is the number one preventable cause of death and disease in Humboldt County as it is in the United States. More people die in Humboldt County from tobacco use than die from homicide, suicide, motor vehicle accidents, alcohol, illegal drugs, and AIDS combined.<sup>3</sup>

## Humboldt County Preventable Deaths in 1998



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<sup>2</sup> The Humboldt County Public Health Branch contracted with the Social Science Research Center (SSRC) at California State University, Fullerton to conduct a telephone survey of county residents to assess attitudes and behaviors regarding tobacco use. Telephone interviews with 673 randomly sampled Humboldt County residents were completed in May 2001. Details of the methodology are presented in the Technical Report. It may be requested by calling (707) 268-2132.

<sup>3</sup> Number of tobacco-related deaths taken from this report. Number of drug-and alcohol-related deaths from state Department of Alcohol and Drug Programs. All other numbers from California Department of Health, Vital Statistics website:

[http://www.applications.dhs.ca.gov/vsq/screen4.asp?cnty\\_cd=12&year\\_data=1998&Criteria=1&Res\\_OCC=Residence&Birth\\_Death=Death&Stats=1](http://www.applications.dhs.ca.gov/vsq/screen4.asp?cnty_cd=12&year_data=1998&Criteria=1&Res_OCC=Residence&Birth_Death=Death&Stats=1)

We all know that tobacco has been found by science to be addictive and that long-term use causes a variety of health problems including lung cancer and heart and respiratory diseases.<sup>4</sup> What this report shows is the specifics of who is being hurt and how.

## Compared to what?

For some measures of impact we can compare Humboldt County to California as a whole. When possible, we also compare Humboldt rates with those in two groups of Northern California non-urban counties. The first group is the “small rural” comparison counties - the four non-metropolitan counties closest to Humboldt in size: Mendocino, Nevada, Tehama and Lake.<sup>5</sup>

A second comparison group is northern counties that have significant metropolitan areas within them but which are close to the 1998 size of Humboldt (126,070). The four metropolitan rural counties are: El Dorado (population 137,800), Napa (117,000), Butte (191,400), and Placer (188,800). This group is called “Metro” counties. Where appropriate, we have also adjusted the rates of occurrence to take into account the differences in age distribution between counties.

## What is missing?

Many important measures of the impact of tobacco on Humboldt residents are not available. For example, we do not have a measure of cigarette sales in the county (it is available only for the state). Nor do we have measures of death and illness caused by passive smoking (secondhand smoking). Many other indicators of impact simply are not available for Humboldt County (the number and costs of doctor visits or emergency rooms visits for tobacco-related illness, for example, or the costs of births that are complicated by tobacco-related problems such as low birth weight). The picture of death and illness that emerges in these pages, as overwhelming as it is, thus understates the multiple costs of tobacco use.

Because we do not have available reliable Humboldt County prevalence figures *over time*, the picture presented here also does not do justice to the reductions in tobacco use that we believe have occurred over the past several years—to the credit of individual tobacco users who have stopped and to policy makers and health education staff who have funded and implemented cessation and prevention programs.

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<sup>4</sup> *Reducing Tobacco Use: A Report of the Surgeon General* (2000). Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

<sup>5</sup> There are 22 California counties that were classed (based on the 1990 census) by the U.S. Office of Management and Budget as “non-metropolitan.” [Leland, D. (1995). *Report Card for Rural California: A 1995 Quality of Life Benchmark* : USDA Rural Economic and Community Development Services]. Humboldt is the largest of these.

PART I:  
THE CONSEQUENCES OF TOBACCO USE:  
DEATH AND ILLNESS

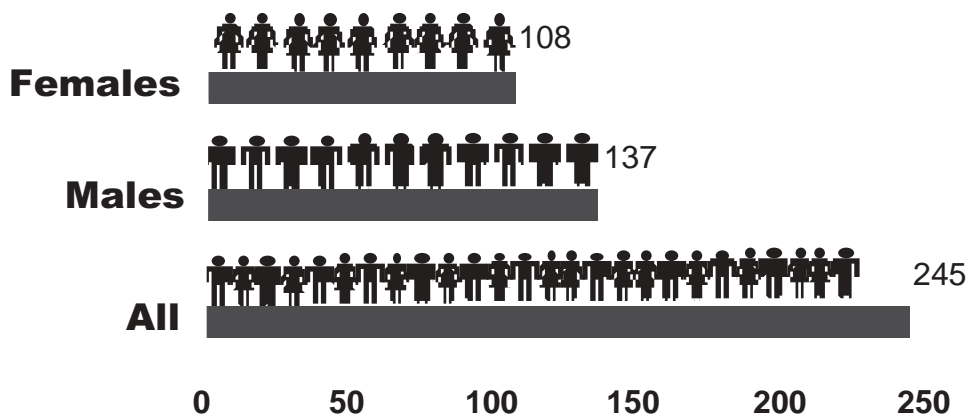
# DEATHS ATTRIBUTABLE TO TOBACCO USE FROM ALL CAUSES

## *How big is the problem?*

Tobacco-related deaths<sup>6</sup> occur in relation to three types of illness: cancers, cardiovascular disease and respiratory disease. In subsequent pages we will show the deaths attributable to each type of tobacco-related illness. Figure 1 shows the Humboldt County numbers for deaths from all three types of illness combined during the most recent year for which data is available, 1998. Overall, 1,175 Humboldt residents died, 594 men and 581 women. Of these 1,175 deaths, 245 were tobacco-related (21 percent), 137 men (23.1 percent) and 108 women (18.5 percent). In most cases a death due to tobacco-related disease means suffering a chronic illness and a substantial shortening of the life span that would otherwise be expected.

Figure 1.

Total Number of Humboldt Tobacco-Related Deaths in 1998

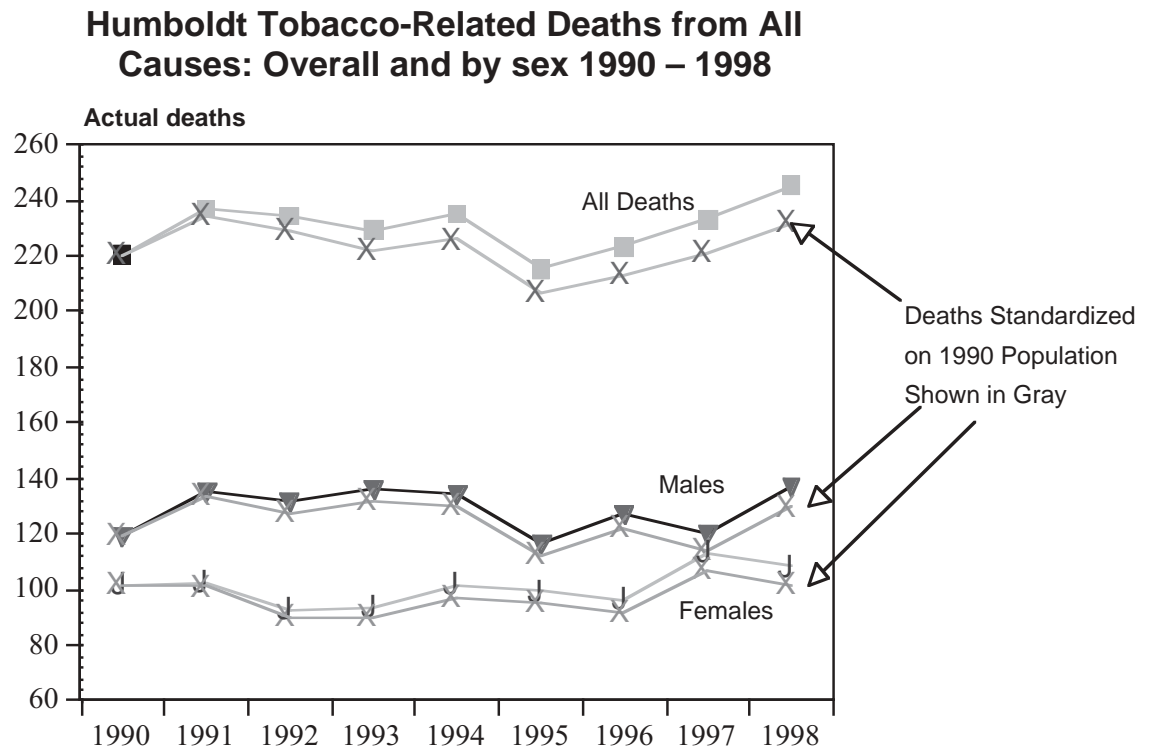


## *Trends and comparisons*

Figure 2 shows the number of tobacco-related deaths of Humboldt residents over a nine-year period. It would be heartening to see tobacco-related deaths decreasing over time, instead there is no clear trend in the data.

<sup>6</sup> Medical information is reported on the death certificate by the attending physician or coroner. Death certificates classify and report “the underlying cause of death,” which is generally defined as that which initiated the sequence of events leading directly to death. Causes of death are coded by the State of California according to the Ninth Revision International Classification of Diseases.” The Surgeon General’s 1989 report is the source of the percentage of each type of illness that is believed on the basis of many specific studies to be attributable to tobacco use. Appendix I shows these percentages. The number of deaths was determined by multiplying persons with a particular diagnostic code by the percentage applicable to that code. The number of “tobacco-related deaths” in this report is based on the way of linking deaths to tobacco use developed by the Centers for Disease Control (CDC), the US epidemiology agency.

Figure 2.



Our primary concern is with *actual* people who died early or unnecessarily due to tobacco use. However, adjusting for population change over time (standardization) makes little difference for Humboldt—as shown by the pale gray lines shadowing the actual numbers.<sup>7</sup>

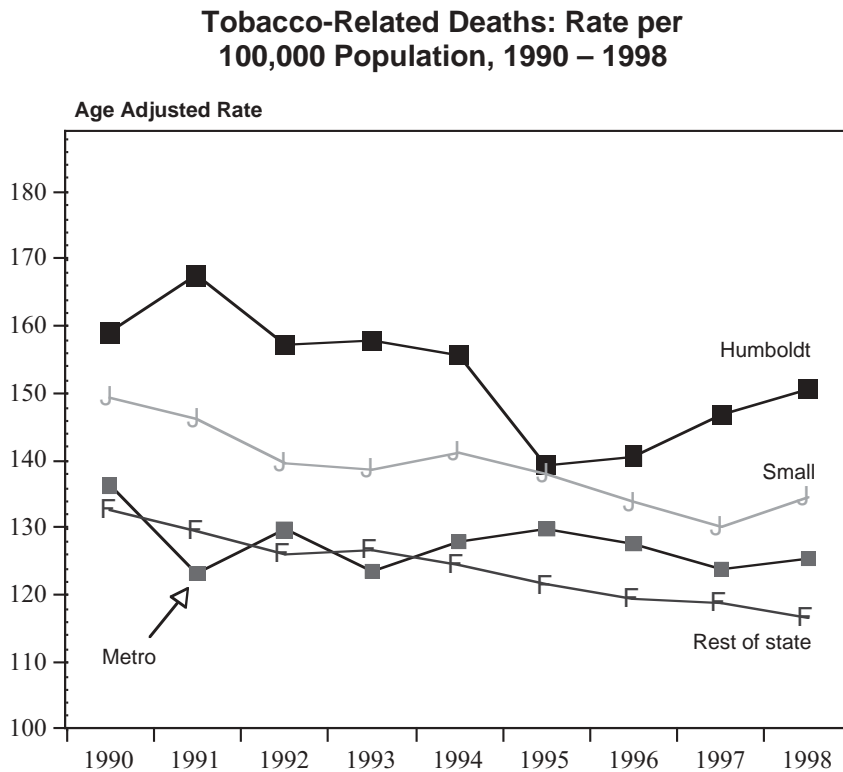
In comparisons between counties, however, standardization is important. Figure 3 on the next page standardizes both on population and age by showing age adjusted rates per 100,000 population.<sup>8</sup> Figure 3 shows a very clear pattern. All *rates* are decreasing over time.<sup>9</sup> Please note that this graph shows “relative” relationships assuming a common age distribution. The general trend is seen most clearly for the “Rest of the state,” which includes all counties except Humboldt and the four small and four metro counties. The metro counties parallel the rest of the state but are not declining as rapidly. The small county trend also parallels the decline of the rest of the state (but at a higher rate). Humboldt County is more variable since the other groups include larger populations. Large variations by year for Humboldt County make it difficult to compare the Humboldt overall rate with the rest of the state. However, the much higher rate in Humboldt County is clear as is an apparent upward trend since 1995.

<sup>7</sup> Because the census is every 10 years, estimates toward the end of the period may be in error. While the official California Department of Finance population figure for Humboldt County in 1998 was 126,862, the federal Census Bureau estimated 123,000. We have used the state figures in this report when standardizing. The federal 2000 census figure is 126,518, which makes the state estimate seem more likely. Note, however, that if the federal estimate was correct the standardized numbers would almost coincide with the actual numbers.

<sup>8</sup> Changes in age distribution over time (or differences across counties) can distort rates. “Standardization” adjusts for age distribution differences by computing all rates as if there was one unchanging age distribution. Here age is standardized in 5 year intervals using the 1970 US population distribution as the reference.

<sup>9</sup> Why does the trend line look different for Humboldt County in this graph than in Figure 2? This is the consequence of standardization on age and population. Again, standardization allows us to compare relative levels and trends for several different entities “holding constant” the effect of different age distributions.

Figure 3.



## CANCER DEATHS ATTRIBUTABLE TO TOBACCO USE

We have presented information on all tobacco-related deaths. Now we look at the three major disease types to see their relative contribution—starting with cancers.

### *How big is the problem?*

Cancer deaths in California as a whole have been lower than in much of the rest of the United States, due in large part to “tobacco control” efforts.<sup>10</sup> Age-adjusted rates of cancer decreased substantially in the past decade although they were higher in Northern California than in the state as a whole.

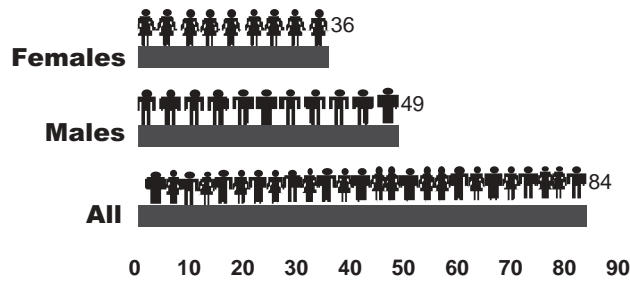
There were 84 tobacco-related cancer deaths in Humboldt County during 1998—49 among men and 36 among women.<sup>11</sup> We see in Figure 4 that tobacco-related cancer deaths are higher for men than women.

<sup>10</sup> For example, California has consistently been under the national CDC goal for the number of cases of lung cancer and chronic pulmonary obstruction (two key tobacco-related diseases).

<sup>11</sup> Appendix I contains methodological detail. Appendix II contains estimates using the approach of the Northern California Cancer Registry. These appendices are not in this report but are available on the web at <http://www.co.humboldt.ca.us/health/>

Figure 4.

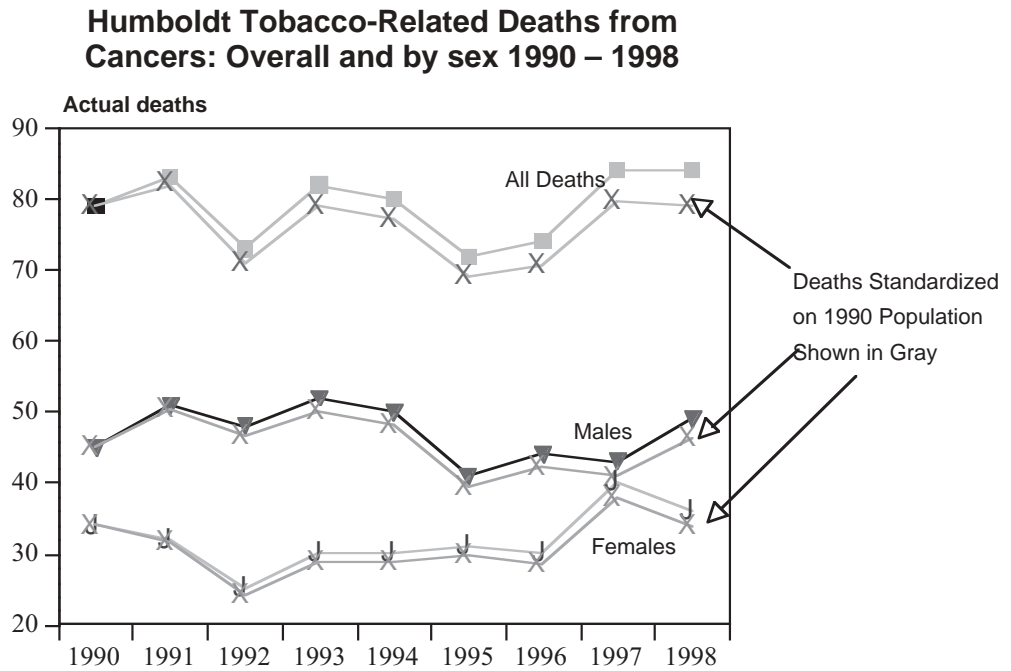
Number of Humboldt Tobacco-Related Cancer Deaths in 1998



*Trends and comparisons*

Overall we see no trend (Figure 5) but there is an apparent increase for women. Actual deaths in Figure 5 have the large symbols, while the rate standardized to the 1990 population is shown in light gray beneath each row of data.

Figure 5.



## CARDIOVASCULAR DEATHS ATTRIBUTABLE TO TOBACCO USE

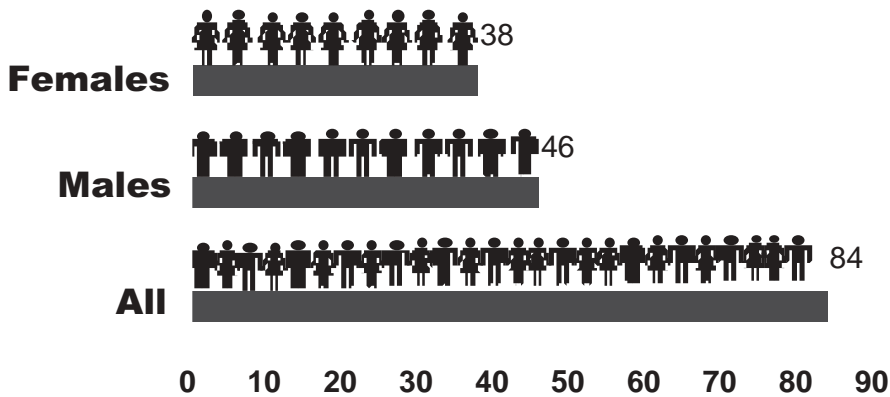
### *How big is the problem?*

Prolonged tobacco use is linked to a wide range of heart disease, including rheumatic disease, hypertension, ischemic heart disease, pulmonary heart disease, and cardiac arrest.

In 1998 a total of 84 Humboldt residents died of cardiovascular illnesses linked to tobacco-use—46 were men and 38 women. Approximately one-third of the tobacco-related deaths are due to cardiovascular illness—closely matching the number due to cancer.

Figure 6.

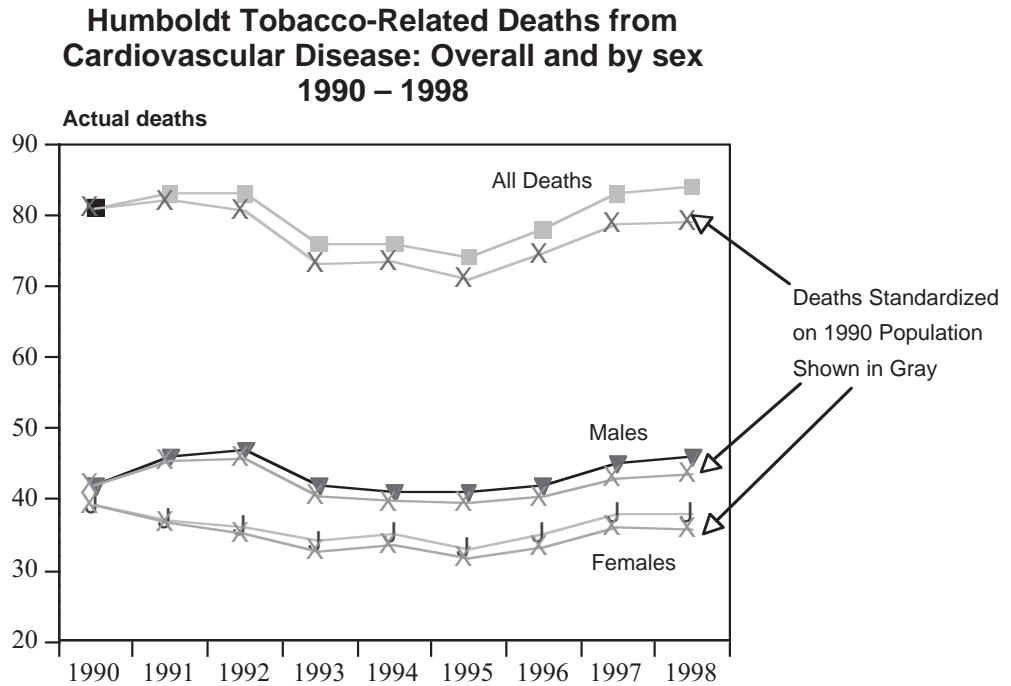
Total Number of Humboldt Tobacco-Related Cardiovascular Deaths in 1998



*Trends and comparisons*

As shown in Figure 7, although the number of cardiovascular deaths for males is somewhat higher than for females, it is less striking than for cancer-related deaths. No clear trend is apparent—neither an increase nor a decrease in tobacco-related cardiovascular deaths. Once again, because the number of men and women in the county is quite close, the standardized rate by sex is very close to the unstandardized rate.

Figure 7.



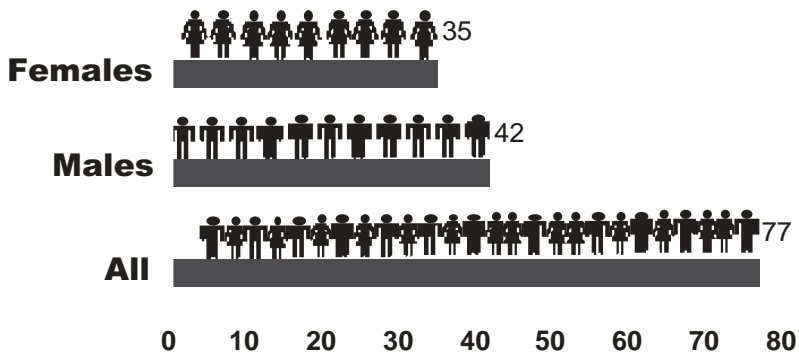
# RESPIRATORY DEATHS ATTRIBUTABLE TO TOBACCO USE

*How big is the problem?*

A final third of the tobacco related deaths—shown in Figure 8—are related to respiratory illnesses such as bronchitis, emphysema, chronic airway obstruction and asthma. In 1998, there were a total of 77 tobacco-related deaths from such illnesses, including 42 among men and 35 among women.

Figure 8.

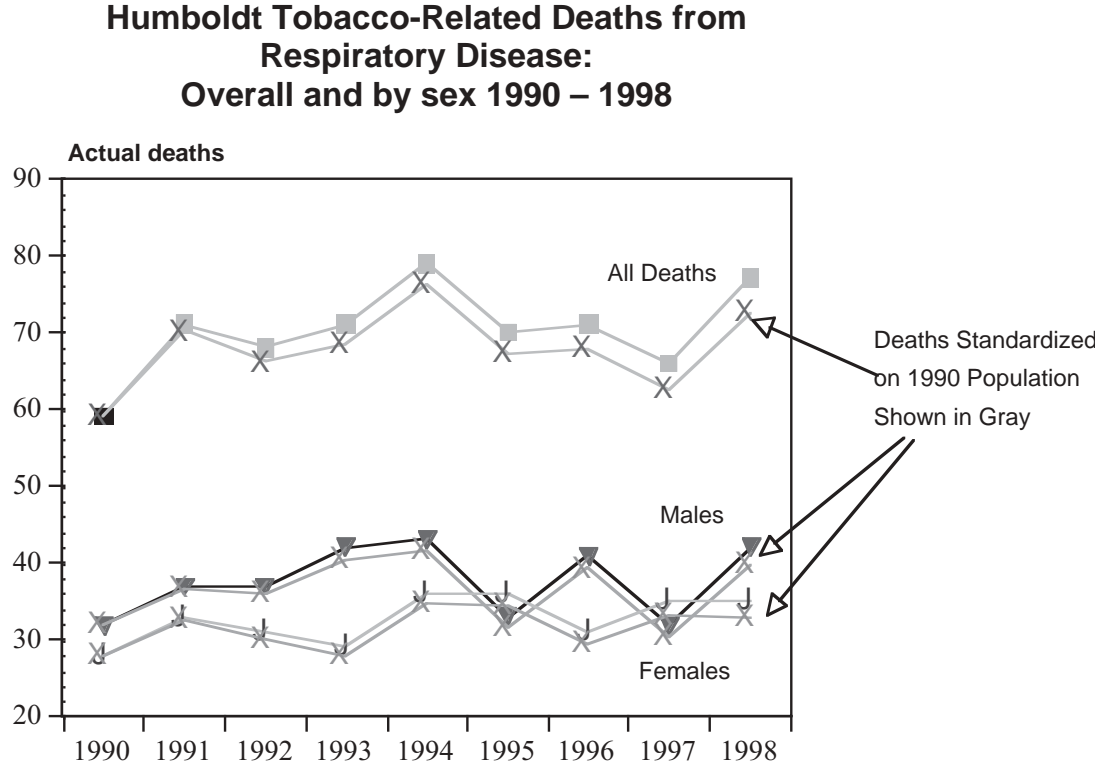
Total Number of Humboldt Tobacco-Related Respiratory Deaths in 1998



*Trends and comparisons*

Over time there may be a slight trend upward for tobacco-related respiratory illness. There is also considerably less difference by sex for tobacco-related respiratory illness than for deaths caused by tobacco-related cancers or cardiovascular illness. (See Figure 9.)

Figure 9.



# HOSPITAL VISITS AND COSTS ATTRIBUTABLE TO TOBACCO USE

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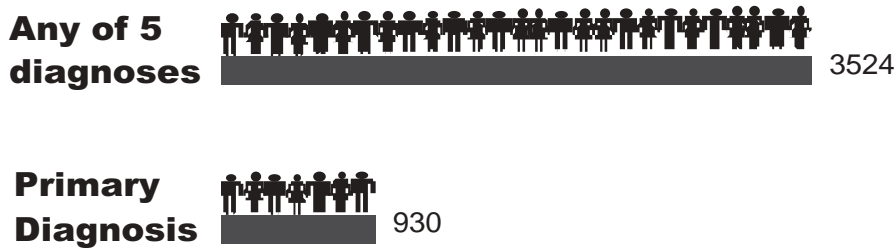
Persons discharged from Humboldt County hospitals with tobacco-related illnesses

*How big is the problem?*

Using the same attributable risks as in the death analysis (described in Appendix I), we have calculated the number of Humboldt County residents discharged from hospitals<sup>12</sup> with tobacco related illnesses. When presenting deaths we were limited (by what is on a death certificate) to including only the primary diagnosis. However, during hospital episodes as many as 24 diagnoses can be recorded.<sup>13</sup> We have calculated the number of tobacco-related hospital discharges using both a) only the primary diagnosis and b) any tobacco-related illness among the first five diagnoses. We have no way of knowing the extent to which these secondary diagnoses caused or complicated the hospital stay when the primary diagnosis was not tobacco-related.

Figure 10.

Total Number of Humboldt Tobacco-Related Hospital Discharges in 1998



In 1998, a total of 930 hospital episodes were tobacco-related based on the primary diagnosis.<sup>14</sup> Tobacco-related diagnoses were found among the first five diagnoses on each episode a total of 3,524 times. These figures need to be compared to the 13,947 total discharges for Humboldt residents during 1998. The hospital discharges in which the primary diagnosis was tobacco-related constituted 6.7 percent of all discharges; they constituted 25 percent of all discharges when the first five diagnoses were included.

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<sup>12</sup> Data are from the Office of Statewide Health Planning. In 1998, 91 percent of the discharges were from acute general hospitals, with the remainder from long-term care facilities, rehabilitation facilities and psychiatric facilities.

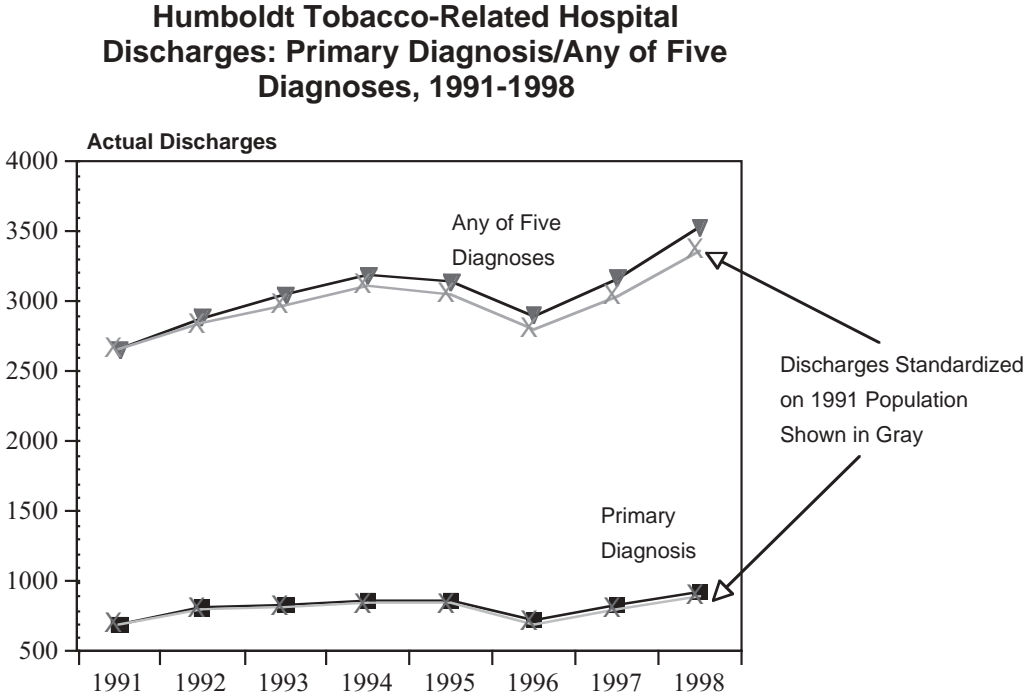
<sup>13</sup> As in the analysis of deaths, only the tobacco-related “attributable” percentage of persons with a given illness were counted. Use of the mortality attributable fractions was suggested by Wendy Max, Ph.D., Co-Director, Institute for Health & Aging, University of California, San Francisco. See Appendix I for details.

<sup>14</sup> Of the 930 discharges, 909 were discharges from acute general hospitals.

Trends and comparisons

The number of tobacco-related hospital discharges is shown in Figure 11 for the period 1991 through 1998. There appears to be some increase in the numbers (even after standardizing the population on age—which is shown with gray lines), especially in the number of discharges in which any of the first five diagnoses was tobacco-related. For example, adjusting for population increase, the number of discharges with tobacco-related primary diagnosis increased from 695 in 1991 to 887 in 1998.

Figure 11.



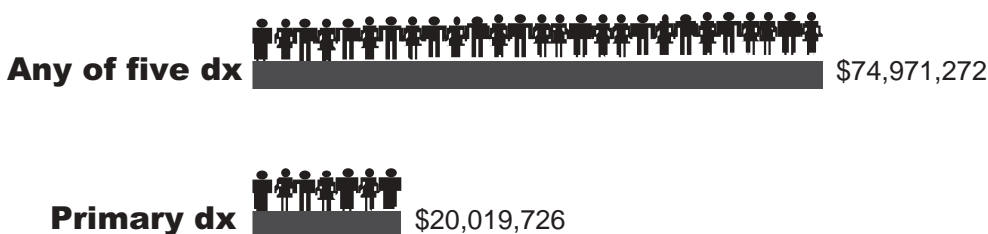
# COSTS<sup>15</sup> OF EPISODES IN HUMBOLDT COUNTY HOSPITALS FOR TOBACCO-RELATED ILLNESSES

## *How big is the problem?*

In 1998 charges for hospital stays of Humboldt County residents<sup>16</sup> totaled almost 202 million dollars.<sup>17</sup> Charges for discharges in which the primary diagnosis was tobacco-related were over 20 million dollars, and for discharges in which any of the first five diagnoses (abbreviated “dx”) was tobacco-related the charges were almost 75 million dollars. (See Figure 12.)

Figure 12.

Costs Charged for Tobacco-Related Hospital Discharges, 1998



## *Trends and comparisons*

Figure 13, on the next page, shows the actual charges for tobacco-related hospital discharges over the eight year period 1991-1998. The bottom line is charges for episodes in which the primary diagnosis was tobacco-related.<sup>18</sup> The top line is charges for episodes in which any of the first five diagnoses were tobacco-related. The dark lines are the actual charges. The pale gray lines are the charges adjusted for population growth and increase in the medical cost price index.<sup>19</sup>

Although the increase is less if population and the medical cost price index are taken into account, the overall increase is still very substantial. Actual charges for discharges that are tobacco-related based on the primary diagnosis increased from \$5,964,446 to \$20,019,726.

<sup>15</sup> The Office of Statewide Health Planning and Development records and publishes the “charge” made by the hospital for each episode. “Charge” include all charges for services during the time at the facility, based on the hospital’s full established rates. Charges include, but are not be limited to, daily hospital services, ancillary services, and any patient care services. Hospital-based physician fees are excluded as are other physician fees. A “charge” is just that, a claim for payment; actual payments received may be less.

<sup>16</sup> Most of the stays were in Humboldt facilities, but discharges from hospitals in other counties in which the person had a Humboldt zip code were counted as well.

<sup>17</sup> Utilization and costs of hospital services per capita was higher in Humboldt than in the state as a whole. The charges in acute general hospitals in Humboldt in 1998 were \$190,199,045 while at the average cost per capita in California costs would have been \$124,959,070.

<sup>18</sup> Again, the number of cases was determined by multiplying the attributable fraction shown in Appendix I by the number of persons with each type of tobacco-related illness.

<sup>19</sup> Between January 1991 and January 1998 the costs of medical care increased 142 percent. In contrast, the average cost per tobacco-related discharge increased from \$8,581 in 1991 to \$21,526 in 1998, or 250 percent. Medical CPI available at: <http://www.economagic.com/em-cgi/data.exe/blscu/CUUR0000SAM2>

Using constant 1991 dollars and population, this amounts to a 226 percent rise in charges. When the charges for episodes in which any of the first five diagnoses was tobacco-related are adjusted in the same way, the increase is 190 percent.

Some of the increase in charges is due to increased numbers, as shown previously in Figure 11. But the average cost per episode is also substantially higher (in constant dollars). For persons with a tobacco-related primary diagnosis the average cost per discharge in 1991 was \$8,582; in 1998 it was \$15,204. Since inflation has been taken out, the increase may reflect the use of newer technologies while some of it—based on the fluctuation apparent in 1996—may reflect chance variation.

Figure 13.

**Humboldt Tobacco-Related Hospital Costs:  
Primary Diagnosis/Any of Five Diagnoses,  
1991-1998**

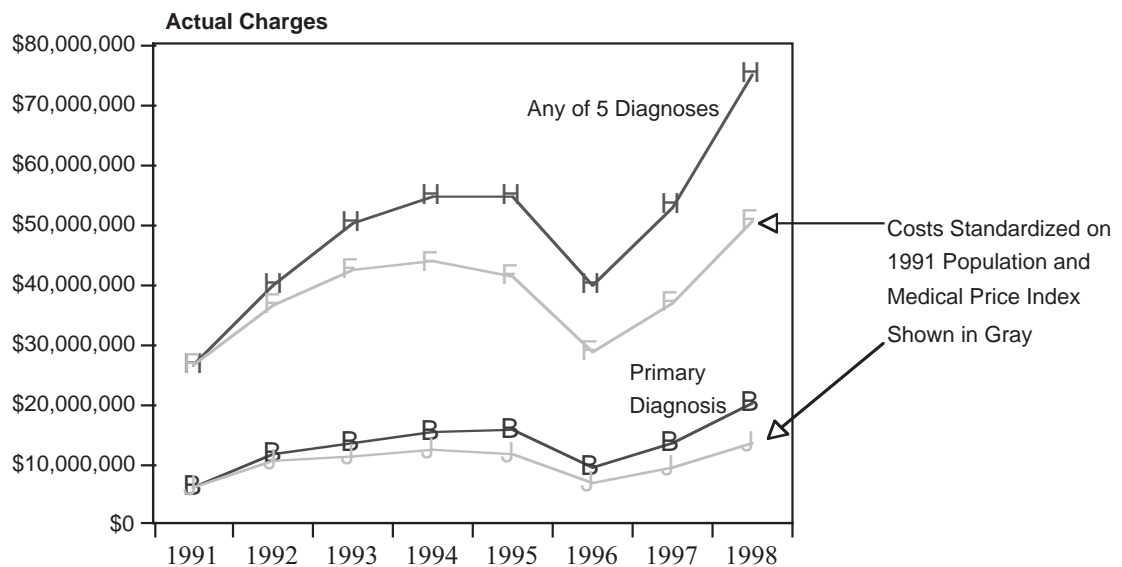
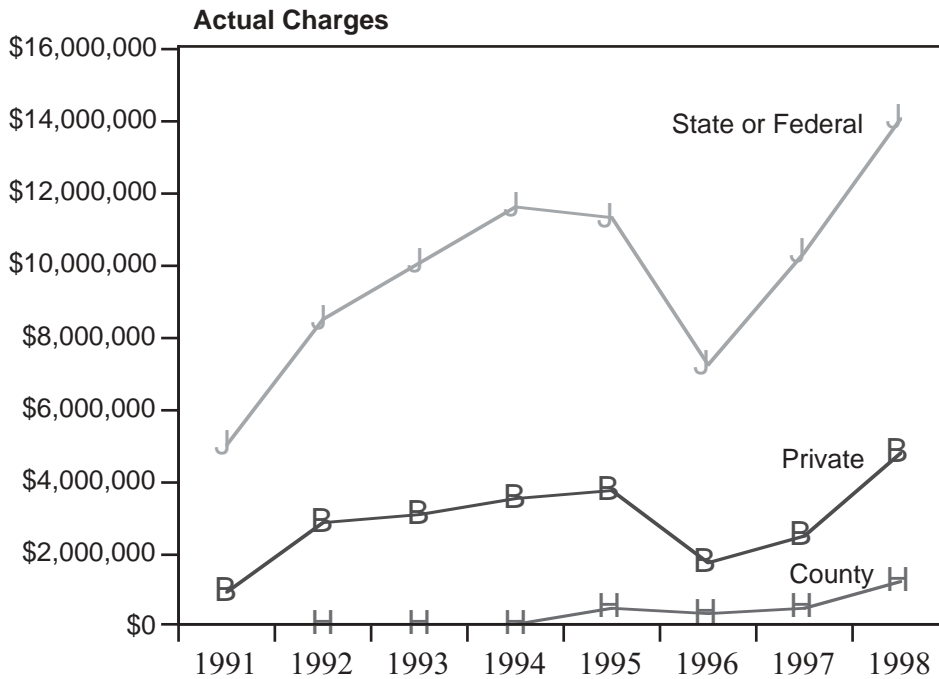


Figure 14 on the next page shows the same actual charges as in Figure 13 but broken down by payer and over time. Between 60 and 75 percent of hospital charges were assumed by state and federal programs, mostly tax driven. The payers included here are Medi-Cal, Medicare, CHAMPUS and other veterans programs, Workman’s Compensation, and a small amount for other government programs. The private payers include self-pay, HMO, PPO, Blue Shield/Blue Cross and other private insurance. The “county” charges are for indigent care. The County Medical Services Program (CMSP) is a joint county/state program that provides medical and dental care to individuals ages 21-64, who live in California’s 34 rural counties, including Humboldt. The program started in 1983. Beneficiaries of the program are “medically indigent adults” who have no other source of medical insurance.

In 1998, the \$20,016,343 charged for tobacco-related hospital episodes (primary diagnosis) was divided: \$14,043,683 charged to public payers, \$4,768,236 to private payers and \$1,204,424 to the medically indigent fund.<sup>20</sup> Of the much larger figure of \$74,964,842 total costs for discharges in which any of the first five diagnoses were tobacco-related, \$57,488,548 was charged to public payers, \$13,915,312 to private payers, and \$3,560,982 to the medically indigent fund.

Figure 14.

### Humboldt Tobacco-Related Hospital Costs: Primary Diagnosis by Payer, 1991-1998



<sup>20</sup> Because the indigent fund, CMSP, establishes a cost-based rate for hospitals as determined by audits, it reimburses less than the hospital "charges." In 1997-1998 the total *paid claims* made by CMSP for Humboldt residents were \$5,423,720, going up to \$6,193,798 in 1999-2000. It is not possible to determine how many of the tobacco-linked charges were actually paid.

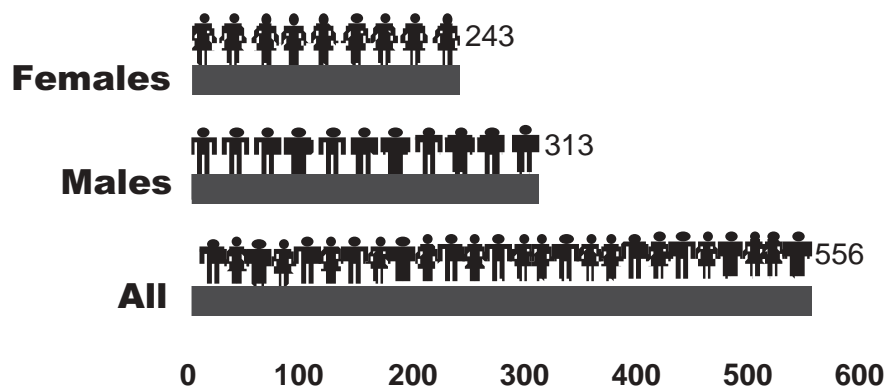
## THE OCCURRENCE OF NEW CASES OF TOBACCO-RELATED CANCERS

### *How big is the problem?*

Data on new tobacco-related cancers in Humboldt and comparison counties come from a special analysis done by Sharan Campleman of the Cancer Registry of Northern California.<sup>21</sup> In order to obtain more stable rates, the analysis was done by aggregating three year periods: 1990-92, 1993-95 and 1996-98. All tobacco-related cancer sites are included, not just lung cancer.

Figure 15.

Total Number of Newly Diagnosed Humboldt County Tobacco-Related Cancers During 1996, 1997 and 1998 (Combined)



During the three year period 1996-1998 there were 556 new cancers at tobacco-related sites, such as the lips or lung—313 were among males and 243 among females.

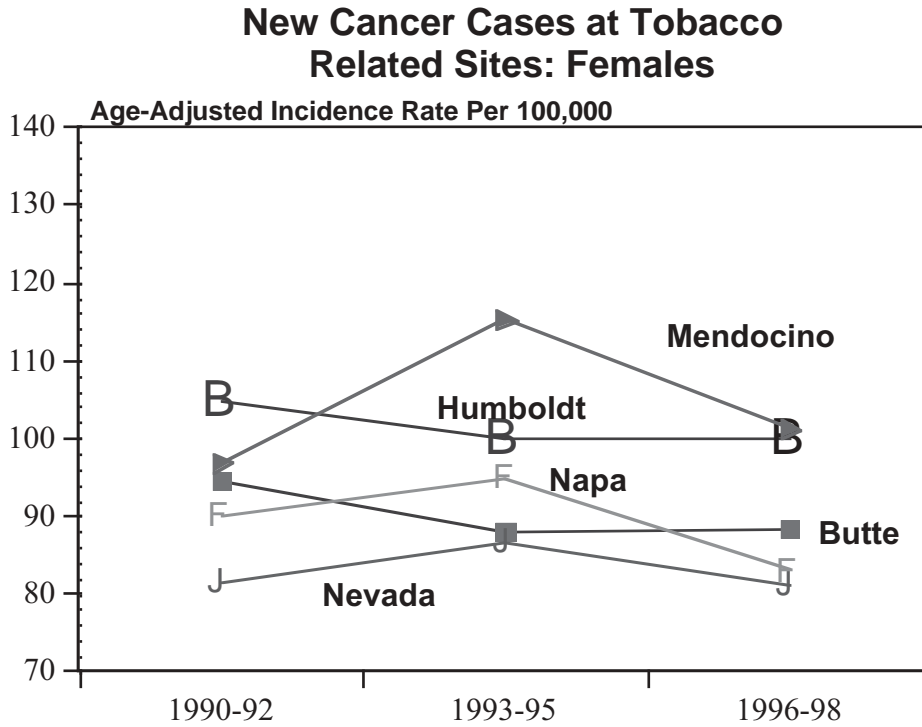
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<sup>21</sup> See Appendix II for the detailed reports that also include confidence intervals.

*Trends and comparisons*

Rates for both Humboldt County men and women started very high in the 1990-92 period and have been decreasing. The rate for men is in the middle of all the counties (not shown) while the rate for Humboldt women is still higher than for most other comparison counties (Figure 16).

Figure 16.



PART II:  
TOBACCO'S IMPACT ON VULNERABLE  
POPULATIONS

# TOBACCO AND OUR YOUTH: THE HEALTHY KIDS SURVEY

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## *Background*<sup>22</sup>

There are stages on the way to tobacco addiction; it may take several years for experimentation to turn to habitual use to addictive use. Thus it is important to measure different levels of tobacco use (and use of different types of tobacco) and to do so as young persons become older.

Information on smoking among Humboldt County youth comes from student self-report through the Healthy Kids survey. This is a standardized survey form distributed by the state Department of Education. Unless a school district accepts tobacco funding, the survey is administered at the option of the district. In Humboldt, surveys were administered in 7th, 9th and 11th grades in Fall 1999, Spring 2000 and Fall 2000. A total of nine school districts and 13 schools participated and are represented in the data presented here. Although 3,180 students were targeted for participation, only 1,692 actually brought back signed parental consent forms and completed the survey.<sup>23</sup> Of the sample of 1,692 there were 368 seventh graders (22 percent of the sample), 773 ninth graders (46 percent of the sample) and 551 eleventh graders (33 percent of the sample). The participating schools represent about 60 percent of all 7th, 9th and 11th graders in the county.

Although we present actual numbers,<sup>24</sup> it should be understood that these represent only a part of the Humboldt County population of youth. For this reason, special attention should be paid to the percentages accompanying each number.

## *How big is the problem?*

### Levels of Use

Figure 17 shows the numbers of students, extrapolated to the target population of 3,080, who use tobacco with increasing degrees of frequency. The percentages of students in that grade level are shown to the right of the graph.

Experimentation. The percentage of students who have experimented to the extent of at least trying one puff of a cigarette increases from 23 percent in 7<sup>th</sup> grade to 55 percent in 11<sup>th</sup> grade. As noted above and in the Appendix on data sources, these are likely to be low estimates rather than high.

Another form of experimentation is to try smokeless tobacco, snuff or chewing tobacco. Seven percent of 7<sup>th</sup> graders, 11 percent of 9<sup>th</sup> graders and 23 percent of 11<sup>th</sup> graders said they had tried smokeless tobacco.

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<sup>22</sup> Please see Appendix III for much more methodological detail as well as more detailed tables with confidence intervals. The appendices are available from: <http://www.co.humboldt.ca.us/health/>

<sup>23</sup> There were more surveys completed than this but the grade could not be assigned accurately or, in the case of 23 students, they reported on the survey form that they had not been careful or honest on most of the questions. The figures we use are those that appear reliable.

<sup>24</sup> Point estimates based on the survey sample. Confidence intervals are available in Appendix III.

Most of those trying cigarettes and smokeless tobacco overlap: a total of 24 percent of 7<sup>th</sup> graders, 42 percent of 9<sup>th</sup> graders and 58 percent of 11<sup>th</sup> graders had tried cigarettes *or* smokeless tobacco (see top of Figure 17).

The percentage is slightly higher among boys. Compared to the 1999 statewide California Student Survey results, a statewide sample using many of the same questions as in the Healthy Kids survey, Humboldt is within one percentage point of 7<sup>th</sup> graders and 9<sup>th</sup> graders ever trying smoking and slightly higher (55 percent to the statewide 52 percent) for 11<sup>th</sup> graders. All these are within the margin of error for the survey, however.

Current use. A second level of behavioral risk is “current smoking”—having smoked within the past 30 days. The middle panel of Figure 17 shows that the students passing this threshold is less than a third of those who have experimented with smoking: 7 percent of 7<sup>th</sup> graders, 14 percent of 9<sup>th</sup> graders and 20 percent of 11<sup>th</sup> graders.

For smokeless tobacco the percentages reporting use within the previous 30 days was 3.5 percent among 7<sup>th</sup> graders, 5 percent among 9<sup>th</sup> graders and 7 percent among 11<sup>th</sup> graders.

The figures (middle panel of Figure 17) for those using *either* smokeless tobacco or cigarettes within the previous 30 days are: 8 percent in 7<sup>th</sup> grade, 16 percent in 9<sup>th</sup> and 22 percent in 11<sup>th</sup>. Again, the figures for all three grades in Humboldt County in 1999-2000 are almost identical to the statewide average for 1999.

Daily use. Smoking on 20 or more of the previous 30 days was defined in the survey as “smoking daily.” In the Healthy Kids sample, a relatively small percentage (compared to those smoking at all within the past 30 days) smoked daily: 3 percent of 7<sup>th</sup> graders, 4 percent of 9<sup>th</sup> graders and 7 percent of 11<sup>th</sup> graders (see bottom panel of Figure 17).

The corresponding percentages for smokeless tobacco were 1.6 percent, 1.0 percent and 2.1 percent.

For daily use of *either* cigarettes or smokeless tobacco the percentages are: 3.4 for 7<sup>th</sup> grade, 4.5 for 9<sup>th</sup> grade and 8.0 for 11<sup>th</sup> grade. (See bottom panel of Figure 17.) Statewide, the figures for daily smoking are slightly lower, 2 percent for 9<sup>th</sup> grade and 6 percent for 11<sup>th</sup> grade—again, the differences are within the survey margin of error.<sup>25</sup>

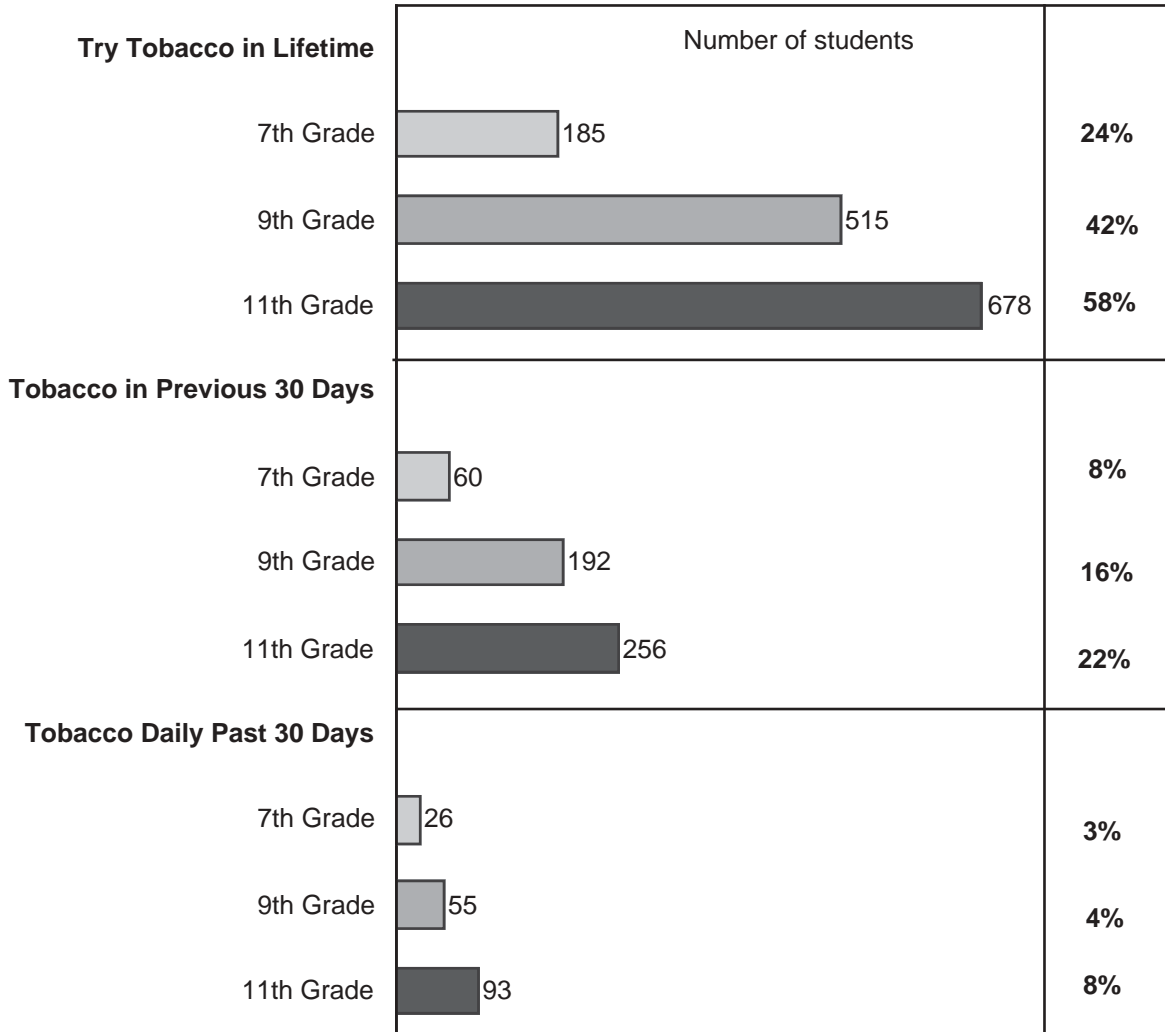
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<sup>25</sup> More information on the relationship of Humboldt County and state rates is in Appendix III.

Figure 17.

**Humboldt Youth Who Smoked Cigarettes or  
Used Smokeless Tobacco In Lifetime, in  
Previous 30 Days and Daily  
(Of 3,080 Sampled)**

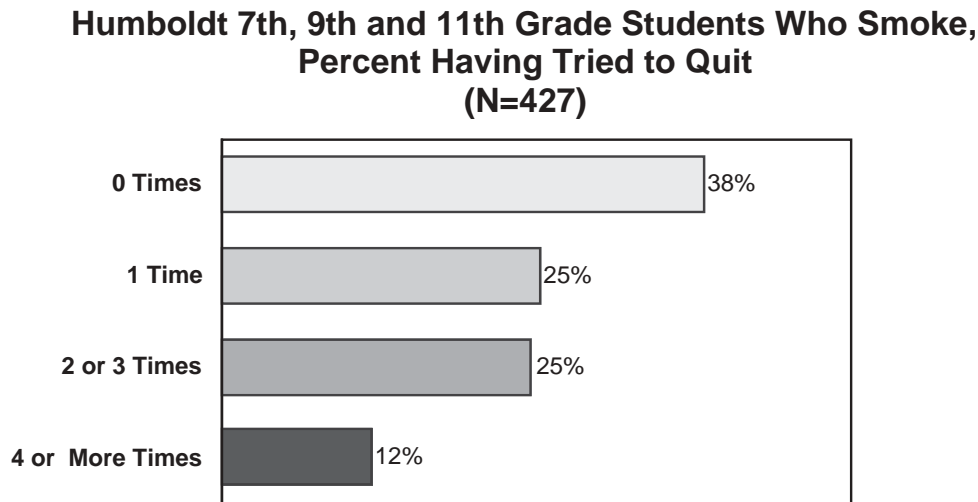
Percentage of  
Those in Grade



### Trying to Quit

Trying to quit. Regardless of whether tobacco use is habitual or has moved to physiological addiction, stopping can be difficult. Students were asked, “If you smoke cigarettes, how many times have you tried to quit smoking cigarettes?” Of those answering the question, 38 percent said they had never tried to quit. Another 25 percent had tried once and another 25 percent had tried two or three times. Twelve percent had tried four or more times. (See Figure 18.) A total of 264 students (62 percent) of the 427 who answered the question had tried to quit at least once.

Figure 18.

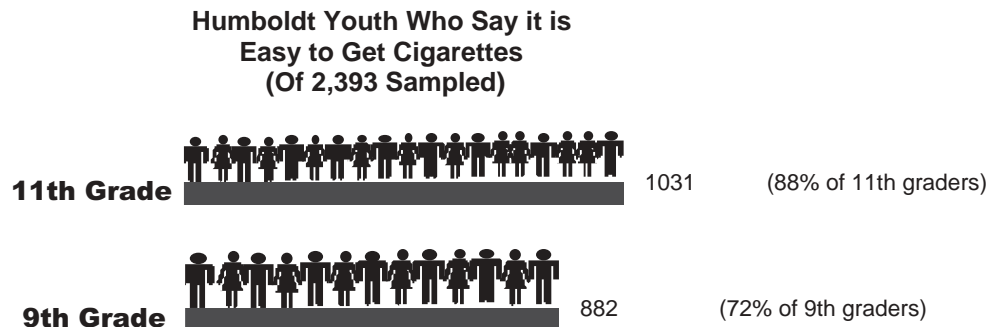


62% tried to quit at least once—37% tried more than once

### Illegal Sales to Minors

Selling tobacco to minors is illegal. Students in 9<sup>th</sup> and 11<sup>th</sup> grade were asked “How difficult is it for students in your grade level to get [cigarettes] if they really want them?” In total, 72 percent of 9<sup>th</sup> graders and 88 percent of 11<sup>th</sup> graders said cigarettes were “Easy” or “Very Easy” to get.

Figure 19.



When asked where they obtained cigarettes, 37 percent of those who smoked said a friend or someone else gave them to them, another 25 percent gave money to someone else to buy them, and over 20 percent bought them from a store or a vending machine (although vending machines are banned by state law except for those in bars at least 15 feet from a doorway). Students were then asked, “If you bought cigarettes in a store during the past 30 days, were you ever asked to show proof of your age?” Of the 230 students answering, only 39 percent said they had been asked to show proof of age.

### The Larger Picture...

The information we have presented was collected from a sample of 7<sup>th</sup>, 9<sup>th</sup> and 11<sup>th</sup> graders. We can get an overall idea of the total impact of tobacco use on our youth by extrapolating the percentages reported here to the 10,247 students in the 7<sup>th</sup> through 12<sup>th</sup> grades. These figures are conservative since a) we have applied the lower grade’s percentage to a higher grade (e.g. 11<sup>th</sup> grade to 12<sup>th</sup> grade and b) certain groups of high-risk students were not included in the survey.

Figure 20.

NUMBER OF 7 <sup>th</sup> –12 <sup>th</sup> GRADE STUDENTS WHO HAVE TRIED TOBACCO PRODUCTS:	4,039
NUMBER OF 7 <sup>th</sup> –12 <sup>th</sup> GRADE STUDENTS WHO HAVE USED TOBACCO PRODUCTS IN PREVIOUS 30 DAYS:	1,403
NUMBER OF 7 <sup>th</sup> –12 <sup>th</sup> GRADE STUDENTS WHO HAVE SMOKED “REGULARLY”	1,235
NUMBER OF 7 <sup>th</sup> –12 <sup>th</sup> GRADE STUDENTS WHO SMOKED “DAILY” IN THE PAST 30 DAYS	477

# IMPACT OF TOBACCO ON PREGNANT WOMEN AND NEWBORNS

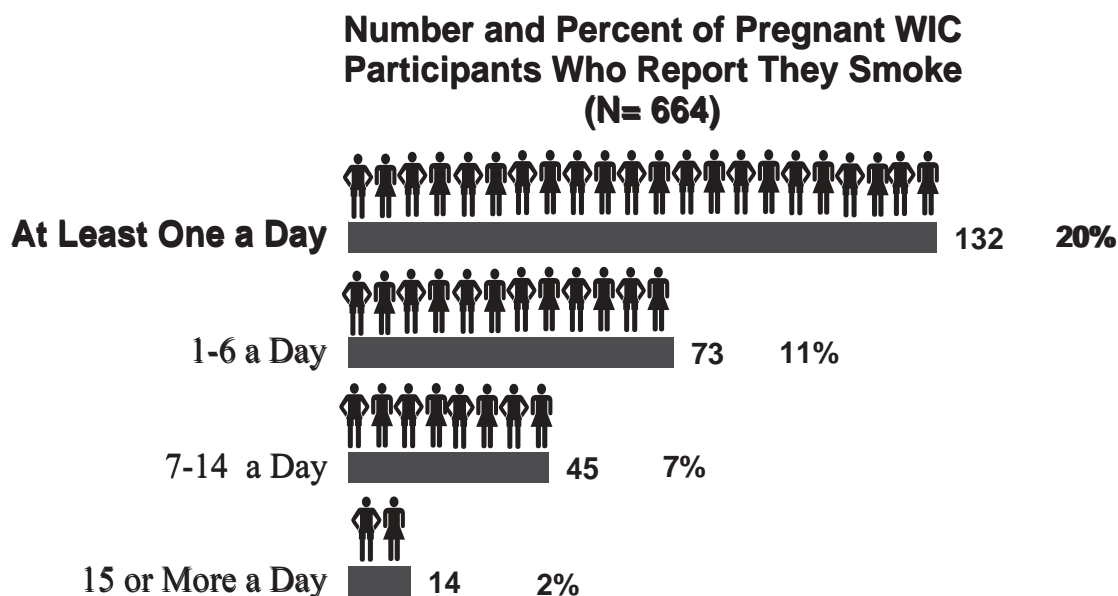
## How big is the problem?

Smoking during pregnancy raises the risk of miscarriages, stillborn babies, low-birth-weight babies, and sudden infant death syndrome, or crib death after a baby is born.<sup>26</sup> As we will see, it is also associated with other vulnerabilities.

## Tobacco Use Among Women Participating in the Women Infants and Children Program

We use two sources of data regarding smoking during pregnancy. The first is a risk assessment completed by participants in the Women, Infants and Children (WIC) program, and the second is the Newborn/Infant Risk Summary filled out by obstetrical nurses at the time of birth. The data sources cover consecutive time periods and are complementary. We consider the WIC information first.

Figure 21.



In the one year period of July 1, 1999 to June 30, 2000 there were 1,355 births to Humboldt County residents. During this same period a total of 664 women received prenatal risk assessments in the Humboldt County Women, Infants and Children program. The program's primary focus is the nutrition of mother and baby, but other issues are assessed and help is provided if desired. One of the issues that is assessed is smoking. Figure 21 shows the total number and percentage of the 664 women receiving a prenatal assessment who smoked at the time (some of them may have stopped during the pregnancy). Overall 20 percent smoked at least one cigarette a day, with nine percent smoking more than six a day.

<sup>26</sup> *Women and Smoking: A Report of the Surgeon General—2001*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

Two other dimensions are important—teen smoking and secondhand smoke. Fifteen pregnant women were 15 years of age or under; five of them smoked. There were 46 women 16 or 17 years of age; 12 (26 percent) of them smoked. Thus a total of 17 out of 61 school-age teens, or 28 percent, smoked during pregnancy.

Women were also asked “Does anyone in your household smoke?” A total of 39 women said yes (6 percent of total), 19 of whom did not themselves smoke. This means a total of 151, or 23 percent, of the pregnant women were exposed to tobacco smoke either through smoking or through secondhand smoke.

### *The Newborn/Infant Risk Summary*

Information from the Newborn/Infant Risk Summaries differs from the WIC information in a number of ways. First of all the information was gathered in the period July 1, 2000-December 30, 2000—or in the six months following the WIC assessments.<sup>27</sup> Second, while about half of the women giving birth in Humboldt County in a year participate in WIC, the Newborn/Infant Risk Summary is intended to be completed for all newborns and their mothers. The actual completion rate is close to 90 percent.<sup>28</sup> A total of 502 risk summary forms were filled out that included tobacco information. The risk summary includes different information about tobacco use than the WIC assessment *and* includes many other factors about the health and welfare of the mother which suggest vulnerabilities. The summary is filled out during the hospital stay by obstetrical nurses based on multiple sources of information available in the mother’s chart. The forms are anonymous.

Because there are multiple findings we present them in “bullet” form. The detailed tables and statistical tests supporting them are in Appendix IV.

### *Prevalence*

- Almost the same percentage of mothers were recorded as using tobacco as in the WIC assessments: 18 percent.
- Of the 88 women who used tobacco, 17 quit during pregnancy.

### *Potentially Negative Effects on the Newborn*

- Women who smoked during pregnancy had babies with lower birth weights than women who did not smoke in pregnancy. Here, and in each of the following points, the difference cited was statistically significant at the 0.05 level.<sup>29</sup> While the babies of women who smoke weighed less, only 14 infants were officially “low birth weight” and this was not statistically associated with tobacco use.

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<sup>27</sup> There might have been overlap, however, as the WIC assessments were done at different stages of pregnancy. Someone assessed later in the year might have given birth in the July-December 2000 period.

<sup>28</sup> But in the period we report on, about one-fourth of the summaries used the older form which did not include a question about tobacco use.

<sup>29</sup> Statistically significant at the 0.05 level means there is only a 1 in 20 chance that a difference as large as the one actually found would occur through chance if the population of “smokers” were really not different from that of “nonsmokers.” That is, given this particular sample of women, it tells us that we can to a large extent discount chance variability as causing the difference we found.

### *Vulnerabilities of New Mothers Associated with Tobacco Use<sup>30</sup>*

A variety of “risk factors” collected on the Newborn-Infant Summaries were linked with tobacco use.

- 44 percent of women with less than a high school education used tobacco versus 14 percent of those with high school or above.
- 53 percent of women having had three or more births used tobacco versus 15 percent of those with fewer previous births.
- 37 percent of women who were single parents or judged to have inadequate support used tobacco versus 13 percent of women who were not.
- 50 percent of women judged to have an “inadequate income” used tobacco versus 15 percent of others.
- 70 percent of women with a history of alcohol abuse used tobacco versus 12 percent of those who did not have such a history.
- 49 percent of mothers who had a history of being a domestic violence victim used tobacco versus 13 percent of those with no such history.
- 41 percent of those with a psychiatric history documented in the chart used tobacco versus 15 percent of those without such a history.
- 83 percent of mothers who had another child living outside the home used tobacco versus 15 percent of those who did not.
- 33 percent of mothers whose partner was unemployed used tobacco versus 13 percent of others.

The higher vulnerability of women who smoke to these multiple other risk factors is also reflected in referrals to public health home visitors: 17 out of 82 (21 percent) of mothers using tobacco were referred versus 31 out of 392 (8 percent) of those not using tobacco.

#### *Additional Information*

- Data from both sources show that about one fifth of women use tobacco during pregnancy. The rate is 28 percent among teen-agers and is 23 percent overall when exposure to second-hand smoke is also included.
- Smoking is associated with multiple vulnerabilities of infant (lower birth weight) and mother. These associations indicate that for many women smoking cessation needs to be approached in the context of a comprehensive view of the family and its needs.
- Since early in 1999 Humboldt County Public Health nurses have been involved in a “Perinatal Outreach Education Tobacco Cessation Project.” So far, 250 families have been enrolled. Forty percent of the women enrolled and assessed were current smokers and 20 percent former smokers. Some 215 children (66 percent of all the children) live in households where smoking occurs. (This statistic was collected from at-risk families who are more likely to use tobacco, however, the US Environmental Protection Agency reports that nationwide, 43 percent of children aged 2 months through 11 years live in a home with at least one smoker.) In 105 of the households (70 percent) where the mother or someone else smokes, the mothers want to reduce the exposure of her children to secondhand smoke. However, a much lower number (19 persons or only 12 percent of those eligible) have actually received smoking cessation services. The project is ongoing and its findings emphasize both a high level of need for smoking cessation assistance

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<sup>30</sup> The way the percentages are shown in this section assume that all of these conditions, ranging from education to single parent status, exist before smoking or not smoking. In some cases that may not be true, but it is in general a more logical assumption. The tests of statistical association, however, are non-directional: they simply indicate association. Actual tables are shown in Appendix IV.

among public health nursing referrals *and* the difficulty of helping women move from concern about the health hazards of smoking to actually stopping.

- To reduce smoking during pregnancy, patients must be more effectively educated about the health consequences of smoking during pregnancy both for them (e.g., placental complications) and for their unborn children (e.g., low birth weight), and healthcare providers should be encouraged to provide this information.

PART III:  
REDUCING TOBACCO-RELATED DEATHS  
AND ILLNESS

# RESEARCH SHOWS THAT TOBACCO CONTROL STRATEGIES WORK

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## *Tobacco Cessation*

Tobacco-related deaths can be reduced both by prevention and cessation efforts and by advances in treatment. To the extent deaths decrease due to prevention and cessation efforts, medical costs should decrease. To the extent that deaths decrease due to better treatment, for cancer, for example, medical costs are likely to increase. It is clearly preferable to reduce deaths due to prevention and cessation.<sup>31</sup>

- In 2000, nearly 27,000 more American women died of lung cancer (67,600) than breast cancer (40,800). Unfortunately women find it harder to stop tobacco use than do men.<sup>32</sup> It is important that cessation efforts target women—who have been subjected to massive cigarette industry ads that associate smoking with independence, freedom, rebellion, and weight loss.
- While the benefits of *stopping* smoking even after many years as a smoker are well-established, recent evidence shows even *cutting down* can reduce risk factors within a few months.<sup>33</sup> Cessation programs have been well-studied and the more effective approaches are known.<sup>34</sup> Coverage of such programs by health insurance, particularly Medi-Cal is still incomplete—no form of counseling is covered under Medi-Cal, for example.<sup>35</sup>
- Smoking cessation programs are effective tools for helping pregnant women. For example, a meta-analysis of randomized trials of prenatal smoking cessation programs using biochemical validation (such as saliva tests) indicated a 50 percent increase in cessation rates over usual.<sup>36</sup> Despite the effectiveness of this approach, many healthcare providers do not offer such programs.

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<sup>31</sup> Advances in treating tobacco use and nicotine addiction have been summarized in an evidence-based guideline, *Treating Tobacco Use and Dependence: A Clinical Practice Guideline*, published by the U.S. Public Health Service.

<sup>32</sup> *Women and Smoking: A Report of the Surgeon General—2001*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

<sup>33</sup> Suzanne Rostler. “Reducing Smoking Boosts Heart Health: Study,” Monday, August 20. Reuters article reporting on the research of Dr. Bjorn Eliasson.

<sup>34</sup> Hopkins DP, Briss PA, Ricard CJ, et al. “Reviews of evidence regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke.” *American Journal of Preventive Medicine*. 2001;20:16–66.

<sup>35</sup> “State Medicaid Coverage for Tobacco-Dependence Treatments.” *CDC Morbidity and Mortality Weekly Report*. November 9, 2001 / Vol. 50 / No. 44.

<sup>36</sup> US Surgeon General. *Treating Tobacco Use and Dependence—A Systems Approach: A Guide for Health Care Administrators, Insurers, Managed Care Organizations, and Purchasers*. The guidelines and a variety of consumer-oriented materials are available free on the web.

<http://www.surgeongeneral.gov/tobacco/systems.htm> and

<http://www.surgeongeneral.gov/tobacco/default.htm>.

The meta-analysis articles regarding help for pregnant women are available at:

<http://www.surgeongeneral.gov/tobacco/meta4.htm>

## Youth Tobacco Use Prevention

- Effective school-based tobacco prevention programs do exist. The Centers for Disease Control have identified programs that have been scientifically evaluated and found to be effective in preventing student tobacco use. Some materials for schools and parents are available free.<sup>37</sup>
- Mass media campaigns can also significantly improve school-based prevention and cessation results.<sup>38</sup>
- The tobacco industry increased spending on advertising by 22 percent from 1998 to 1999. The industry spends over \$8 billion a year on tobacco advertising.<sup>39</sup> Whether directed specifically toward children (like signs below three feet found in at least 20 percent of Humboldt stores)<sup>40</sup> or not, children see or hear much of the cigarette advertising.
- It is extremely important to make sure we have a reliable measure of success for our tobacco use prevention efforts. The California Healthy Kids survey collects information about smoking, drug use, nutrition, and other subjects of great importance to parents, teachers and school administrators. To make sure the survey data is reliable, however, school administrators must strongly support the survey so that a high percentage of students return the signed parental consent form and actually participate in the survey.

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<sup>37</sup> <http://www.cdc.gov/tobacco/edumat.htm>

<sup>38</sup> Flynn, B. S., Worden, J. K., Secker-Walker, R. H., Badger, G. J., Geller, B. M., & Costanza, M. C. (1992). Prevention of cigarette smoking through mass media intervention and school programs. *Am J Public Health, 82*(6), 827-834.

<sup>39</sup> *Women and Smoking: A Report of the Surgeon General—2001*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

<sup>40</sup> Two Proposition 99-funded projects in Humboldt County had contracts with the state Department of Health Services, Tobacco Control Section to reduce in-store advertising aimed at children. Specifically, this included reducing tobacco advertisements and promotions at the level of three feet and below (the eye level of small children) and near candy displays. Information from both projects showed positive change occurred over time based on surveys conducted before and after educational interventions. Data on effectiveness is available from: Amber Neilson, Northern California Campfire Boys and Girls Council; and Kelley Devlin Lake, Saint Joseph Health System.

# WHAT CAN WE DO LOCALLY TO REDUCE THE IMPACT OF TOBACCO ON OUR COMMUNITIES?

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After reviewing this report's evidence of the multiple impacts of tobacco on Humboldt County and research on the strategies that work to prevent and reduce tobacco use, the Tobacco Education Network (TEN) developed the following recommendations. They have been endorsed by the Tobacco Education Network Community Coalition, the Humboldt Del Norte Unit of the American Cancer Society, and the Humboldt County Public Health Branch Tobacco Education Program.

## TEN RECOMMENDATIONS FOR TOBACCO USE PREVENTION AND CESSATION

1. The Humboldt County Public Health Branch, medical providers, hospitals and the American Cancer Society should collaborate to make culturally appropriate tobacco cessation programs available to every tobacco user throughout the county including programs for special populations such as: pregnant women, parents of young children, teens, and those in treatment for alcohol and other drug use.
2. All schools should provide all students in kindergarten through 12<sup>th</sup> grade with effective, research-based tobacco use prevention education and should enforce all public school education code tobacco use restrictions.
3. The Public Health Branch should conduct ongoing media campaigns to de-glamorize tobacco use; encourage parents and community leaders to promote strong, tobacco-free family and community standards; promote cessation; and encourage protection from secondhand tobacco smoke.
4. The police and Sheriff's departments should actively enforce all tobacco laws, including laws requiring smoke-free workplaces and prohibiting the sale of tobacco to minors.
5. All medical and dental providers, schools, and agencies that serve families should provide education on eliminating exposure to secondhand tobacco smoke.
6. All medical and dental providers should identify their patients who use tobacco, advise patients to quit, and refer them to cessation programs.
7. The Humboldt County Department of Health and Human Services, and all other community social service agencies, should incorporate tobacco prevention and cessation intervention and referral into all social service programs.
8. Humboldt State University and College of the Redwoods should incorporate tobacco prevention and cessation education into training programs for teachers, counselors and medical professionals.
9. The Public Health Branch should encourage all public agencies and private organizations to adopt policies prohibiting the acceptance of funds or support of any kind from any entity whose principal business is tobacco products
10. All incorporated cities and the county should enforce signage restriction laws (particularly as they apply to tobacco advertising), reduce tobacco advertising and promotion in areas frequented by minors, eliminate self-service tobacco sales, and require licenses for tobacco retailers.