

Worker Health Status Report



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For information, please contact:

Ruth Sanderson
Health Unit Epidemiologist
Middlesex-London Health Unit
50 King St.
London, Ontario
N6A 5L7
phone: 519-663-5317, ext. 2481
fax: 519-432-9430
e-mail: ruth.sanderson@mlhu.on.ca

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Middlesex-London Health Unit
50 King Street
London, Ontario
N6A 5L7

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Author:
Linda Ann Turner, Contract Epidemiologist

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Executive Summary

Work is not man's punishment. It is his reward and his strength and his pleasure.

George Sand

*I would live all my life in nonchalance and insouciance,
Were it not for making a living, which is rather a nuisance.*

Ogden Nash

Whether you agree with George Sand or Ogden Nash, the reality is that most people must work to support themselves and their families. In fact, in London and Middlesex, about two-thirds of the population over the age of 15 participate in the workforce. This proportion rises to nearly 90% among people between the ages of 25 and 44.

Although the physical, emotional, and intellectual demands of jobs vary, workforce participation and productivity are enhanced when workers are in good health. While employers have a responsibility to provide workers with a safe and healthy work environment, workers themselves must take responsibility for maintaining their health, as well.

One of the concerns of public health is to help prevent chronic disease and injury through organized community-wide strategies. Under the Health Promotion and Protection Act, the Ontario Ministry of Health and Long-term Care has set goals and targets for chronic disease and injury prevention. These goals and targets are set out in *Mandatory Health Programs and Services Guidelines*.¹ Recognizing that the majority of adults spend a large amount of time at work, the *Guidelines* outline several specific health promotion activities to be delivered in the workplace (Appendix A).

Under the Middlesex-London Healthy Workplace Program, the Middlesex-London Health Unit has been providing health promotion in the workplace for several years. To better inform program planning for this group, the Worker Health Status Report was undertaken. The main objectives of the report were to compile available information to describe the workforce in London and Middlesex and to summarize what is known about the health status and health behaviour of London and Middlesex workers. This report uses information from several sources. These are: the London Business Directory 2003/2004, compiled by the London Economic Development Corporation; the 2001 Census and the 2000/2001 Canadian Community Health Survey, conducted by Statistics Canada; and the Rapid Risk

Factor Surveillance System, conducted by the Institute for Social Research at York University.

Summary of Findings

Half of workers in large establishments but small workplaces predominate

Most Londoners are likely aware that several large health and educational facilities are located in London. In fact, of the ten London establishments employing 2000 or more people, five are educational or health facilities. Also according to the London Business Directory, more than half of London workers work in large establishments where 100 or more people are employed. But small workplaces predominate. Indeed, more than 70% of the London work establishments listed in the London Business Directory employ fewer than 20 people.

Other information gathered for this report showed that most London and Middlesex workers work at a fixed address away from home, travel to work by motor vehicle and speak English in the workplace. Only 8% of London and Middlesex workers walk or bicycle to work.

Largest proportion of London and Middlesex workers works in sales and service

The London and Middlesex workforce is well educated; approximately half have a post secondary education. The largest proportion (24.2%) of the workforce of London and Middlesex works in sales and service occupations, while the second largest proportion works in business, finance and administration (17.6%).

There are approximately equal numbers of men and women in the workforce in London and Middlesex. Men are more likely to work in management, trades, transport and primary industries, such as farming. Proportionately more women work in occupations related to health, social science, finance, education, and sales and service.

Healthy living noted among most London and Middlesex workers

Of three targets set out in the *Mandatory Programs and Services Guidelines* related to smoking, alcohol use and physical activity, London and Middlesex workers have achieved the target related to physical activity. Results of the 2000/2001 Canadian Community Health Survey show that just less than half of full time workers aged 18 to 64 in London and Middlesex engage in at least a moderate amount of physical activity during their leisure time, higher than the 40% target for adults set in the *Guidelines*. Not surprisingly, however, younger workers are more likely to be physically active than older workers.

The *Mandatory Programs and Services Guidelines* target for smoking is to reduce to 15% the proportion of the population that smokes on a daily basis. The proportion of workers between the ages of 45 and 64 that smokes daily is just slightly above 15%, meaning that the target set in the *Guidelines* has nearly been achieved among this group. On the other hand, 25% of workers between 18 and 25 are daily smokers.

While many workers continue to smoke, however, a large majority say they are considering quitting, and of these, most say they are likely to do so within the next six months.

Lastly, while most adult residents of London and Middlesex say they drink occasionally, only 6% say they consume alcohol in excess of the gender-specific high-risk guidelines, set by the Addiction Research Foundation of Ontario and Canadian Centre on Substance Abuse.² Among workers, the proportion engaging in high risk drinking is somewhat lower. Approximately 5% of male workers say they consume more than two drinks per day, with no differences between male and female workers or between shift workers and day workers. The target set in the *Mandatory Programs and Services Guidelines* is “to reduce the percent of the adult population who drink more than 2 drinks per day by 20% by the year 2010.” Unfortunately, the proportion of London and Middlesex workers who were drinking at hazardous levels in the year the *Guidelines* were published is unknown. At the current level of 6%, the target for the total population by 2010 would be 5%.

Many London and Middlesex workers report having chronic disease and unhealthy weight status

Nearly one in three London and Middlesex workers aged 45 to 64 reports having one or more chronic diseases. Younger workers are less likely to report having a chronic disease than older workers. The

most commonly reported chronic disease is hypertension, which affects approximately 10% of workers. The next most commonly reported chronic disease is asthma, which affects approximately 7% of workers.

Body Mass Index (based on self-report) differs significantly among workers by both age and gender. According to current international standards, nearly half of all male workers are in the overweight category, significantly higher than the proportion of females who are overweight. Moreover, the proportion of workers in the healthy weight category declines from a high of nearly 70% in the 20 to 24 age group, to a low of just under 40% within the 45 to 64 year group.

High work stress and environmental tobacco smoke are still problems for many London and Middlesex workers

Work demands and work relationships can be sources of stress and conflict, which can lead to anxiety and depression. Anxiety and depression, in turn, can increase risks of ill-health. Survey results show that more than a third of fulltime workers in London and Middlesex report high levels of work stress.

Another common exposure that can lead to illness is environmental tobacco smoke. Supported by the majority of workers, legislation has recently come into effect banning smoking in the workplace. However, nearly one in five workers reports that there is a regular smoker in their household.

Prevention strategies are adopted by the majority of London and Middlesex workers, such as screening for breast and cervical cancer, immunization against influenza, and dental care.

London and Middlesex workers are taking advantage of several of the prevention services being offered in the community. For example, working women have achieved one of the targets set under the *Mandatory Programs and Health Services Guidelines* with respect to screening for cervical cancer, that is, approximately 95% of working women report that they have had at least one PAP test in their life. Although this indicates progress, the provincial guidelines also recommend that women have a PAP test every two years until age 70, at which point, if after 4 normal PAP tests in the previous 10 years PAP tests may be stopped.

Mammograms are recommended for women between the ages of 50 and 69. Survey results showed that

70% of working women between the ages of 45 and 64 have had a mammogram at some time, although only somewhat over half of these women have had a mammogram within the past 2 years. The target under *the Mandatory Programs and Health Services Guidelines* is to increase to 70% the proportion of women ages 50 to 69 who receive regular screening mammography by 2010. Working women in London and Middlesex, still have a ways to go before achieving this target.

Overall, about 60% of adults in London and Middlesex rate their oral health as excellent or very good. Just under 5% of London and Middlesex residents overall said they had trouble accessing dental health treatment in the past year.

And approximately 40% of workers reported having had flu shots in the years covered by the survey. This proportion rises to 46% among workers aged 45 to 64.

Implications of the Findings for Workplace Health Promotion Activities

Although there is still much to be learned, this compilation of information from existing sources has increased our knowledge about workplaces and workers in London and Middlesex. We know, for example, that somewhat more than half of workers in the area work in large establishments which are likely to have joint occupational health and safety committees. These committees can help to facilitate the design and implementation of workplace health promotion activities in conjunction with the Healthy Workplace Program. A challenge, on the other hand, is to reach workers in the many smaller establishments that employ few people.

With respect to health status and health behaviours among London and Middlesex workers, we found more differences by age than gender. Young workers for example, are more likely to smoke, while older workers, especially those between 44 and 65, are more likely to be physically inactive. Compared to younger workers, older workers are also more likely to be overweight, to have chronic diseases, and to have had flu vaccinations. One notable gender difference was that male workers were more likely to be overweight than female workers.

While these observations may be useful in targeting workplace health promotion and prevention at specific age groups or genders, information is not available from these sources to tell us which occupational groups are more in need of these programs. Site-specific surveys would be useful in

helping to learn more about the needs of specific occupational groups.

The findings reported here support continuing health promotion activities in the workplace as outlined in the *Mandatory Programs and Services and Guidelines*, especially with respect to tobacco-free living, healthy eating, health weights and regular physical activity. Given that one in three workers reports experiencing high levels of stress in the workplace, additional goals with respect to workplace stress reduction could be added.

Overall, the workplace is an important venue for reaching not only adult workers but also their families. Workplace health promotion efforts can pay dividends not only through improved employee health but also improved morale, which in turn results in enhanced productivity and organizational commitment.

Introduction

Background

For most of us, work and workplaces are central to our lives from the time we leave school until the day we retire. Our ability to support ourselves and our families, to contribute to our communities, and to enjoy our retirement depends on maintaining our health throughout our working lives.

People have long recognized the importance of safe and healthy work environments. The first Ontario legislation to insure safety and health standards in factories, for example, was passed over a century ago.³ In Canada, Joint Occupational Health and Safety Committees, which have representatives of both labour and management, are now mandatory under federal and provincial legislation in workplaces where 20 or more workers are regularly employed.⁴ Members work to reduce workplace hazards, prevent workplace injuries, and limit exposures to toxic substances.

Workplace health promotion is a related but somewhat newer concept. Workplace health promotion programs, like occupational health and safety programs, are concerned with worker health but differ in focus. Such programs stress the importance of staying physically active, maintaining a healthy diet, moderating alcohol use, and avoiding tobacco. These lifestyle habits are well-known to reduce the likelihood of developing many chronic diseases, such as heart disease, several types of cancer, and diabetes.⁵

In recent years, workplace health promoters have recognized that the workplace itself is often a determinant of health-related behaviour.⁶ Within a broader understanding of motivators of good and poor lifestyles, workplace health promotion has come to mean “creating work environments that support good health practices.”⁵ For example, employers can support healthy eating by ensuring cafeterias offer healthy-choice food items. They can also support increased physical activity by providing on-site change and shower facilities or by subsidizing health club memberships.

Workplaces themselves are also being seen as having a major impact on overall health and mental well-being. Attention is being given to the problems of work-related stress and difficulties many people have balancing their work lives and their home lives. There is a growing recognition that the organization of the workplace can (and should) be modified to promote worker health. Workplace health promotion

experts have begun to define the characteristics of a “healthy workplace.” A study by Lowe and colleagues, for example, found that good communication, social support and reasonable job demands were associated with higher job satisfaction, commitment, morale, and lower absenteeism and intentions to quit smoking.⁷

Another team of researchers with Human Resources Development Canada recently compiled over 10,000 comments Canadian workers made in response to questions about work stress and work-life balance. From these comments, the researchers concluded that the most important things that an organization can do to create a healthy workplace are to:

1. increase the number of supportive managers within the organization,
2. provide flexibility around work,
3. increase employees’ sense of control and,
4. focus on creating a more supportive work environment.⁸

Workplace health promotion, therefore, has several roles to play. Delivery of health promotion messages and the provision of wellness consultations continue to be important. But health promoters also work with organizations to look for ways they can make their workplace a “healthy workplace,” that is, a place that supports healthy behaviours among their employees. One characteristic of a “healthy workplace” is that management recognizes the importance of supporting employees to achieve a healthy balance between their work life and their home life. Workplace health promoters help employers understand the benefits of a healthy workplace in terms of worker retention, productivity, morale, commitment, and the overall health and well-being of their workers.

Workplace Health Promotion and the Ontario Ministry of Health and Long Term Care

Public health has a clear role to play in workplace health promotion. Under the Health Promotion and Protection Act, the Ontario Ministry of Health and Long Term Care has established goals and objectives for chronic disease and injury prevention. These are set out in *Mandatory Health Programs and Services Guidelines*.¹ Specific targets have been set with respect to reducing the prevalence of smoking, meeting nutrition recommendations as defined in *Canada’s Food Guide to Healthy Eating*,⁹ maintaining regular physical activity and healthy weight status,

and reducing alcohol and substance abuse. The *Guidelines* require that several types of health promotion activities take place in the workplace. These are listed in Appendix A.

Middlesex-London Health Unit Healthy Workplace Program

Worker Health has been identified as a priority for the Middlesex-London Health Unit (MLHU). Although the MLHU has been providing health promotion services to workplaces for several years, in 2001, the scope of workplace health promotion activities was expanded. An interdisciplinary committee was formed and the Healthy Workplace Program was established to deliver a wider range of services to the workplace. In addition to smoking, nutrition, physical activity and substance abuse, the Healthy Workplace Program now also covers sexual and reproductive health, child health and parenting, infectious diseases, immunization, and cancer screening. The Middlesex-London Healthy Workplace Program offers consultation, employee education, assistance with policy development and information resources including posters, displays, pamphlets and newsletter articles.

Workers Health Status Report for London and Middlesex County

With many public health programs targeted at workers, MLHU identified a need to assemble the available information about workers and worker health in the MLHU catchment area. The objectives of the Worker Health Status Report are to describe the workforce of London and Middlesex, the locations in which residents of London and Middlesex work and the types of work in which they are engaged. Additional objectives are to describe workers' self-reported lifestyle behaviours, health status, work environments in terms of stress and workplace smoke, and use of preventive services such as cancer screening, dental care and influenza immunization.

Data Sources

Sources of information for this report include the 2001 Canadian Census, the Canadian Community Health Survey 2000/2001 (CCHS), The Rapid Risk Factor Surveillance System (RRFSS), and the London Business Directory, 2003/2004. Methods, definitions and data sources are described in detail at the end of each chapter. Data tables corresponding to the figures shown in each chapter are included in Appendix B.

Workplace Description

Key Findings

- Education and health facilities are among the top employers in London and Middlesex.
- Most work sites in London have 20 or fewer employees.
- More than half of the people that work in London establishments, work in large establishments where more than 100 people are employed.
- Among London establishments that employ 20 or more employees, manufacturing establishments are the most numerous.
- Most London and Middlesex workers, work at a fixed address away from home, travel to work by motor vehicle and speak English in the workplace.
- Only 8% of London and Middlesex workers walk or bicycle to work.

Background

People work in many types and sizes of workplaces. Some people work at multiple work sites, some people work from their homes, while many others spend much of their workday in a motor vehicle.

The language spoken in the workplace can also vary. In Canada, some people may be required to provide services to customers or clients in both official languages, while other workers may speak languages other than English and French during their workday.

The City of London is a designated area under the Ontario French Language Services Act, meaning that all provincial services offered directly to the public are to be available in French as well as English. These services include health care, administering driving tests, issuing hunting licences, as well as other services offered by phone, in person, or in writing.¹⁰

Understanding the characteristics of workplaces helps in the planning of workplace health promotion programs. Researchers have found, for example, that workplaces with a greater number of employees are more likely to have organized supports for workers, such as unions and occupational health and safety committees.⁶ In Canada, joint occupational health and safety committees are legally required in workplaces where 20 or more workers are employed on a regular basis.⁴ Larger workplaces may be more likely to provide workplace health promotion

programs and activities for their employees. Employers of larger numbers of workers may also be more aware of the potential benefits of developing and supporting workplace health promotion, such as better staff morale, decreased injury and absentee rates, and an enhanced corporate image.

The location of people's worksites in relation to their homes can have an impact on health. Workers who walk or bicycle to work, for example, are contributing to their overall health status in several ways. Not only are they benefiting from the additional physical activity, but they are also reducing their risk of being injured in a motor vehicle collision. Under the *Mandatory Programs and Services Guidelines*, the board of health is required "to increase access to regular physical activity by assisting community partners to increase the availability of ...walking trails and cycling routes."¹

London Workplaces by Size

The London Business Directory for 2003/2004 provides information for 2385 establishments located in the City of London. The establishments listed in this directory employed 119,876 full time and part time workers in 2003/2004. According to the 2001 Census, 166,915 residents of London aged 15 and over were employed at the time of the census.¹¹ Therefore, businesses listed in the London business directory employ about 73% of the number of employed London residents aged 15 and over.

London establishments included in the directory that employ 2000 or more people full or part time are shown in Figure 1.1. Five of these ten establishments are educational or health facilities. Establishments may have several worksites among which employees are distributed, such as schools, departments, hospitals, etc.

Of the 2385 establishments listed in the London Business Directory, 226 are self-employed individuals who have no employees. Figure 1.2 shows that of the remaining 2159 establishments, the majority (1570 or 73%) employ fewer than 20 people, while only 146 (7%) employ more than 100 people. These 146 large businesses employ approximately 88,000 people full and part time, which is more than half of the number of employed London residents aged 15 and over. Among establishments that employ 20 or more employees, manufacturing establishments are the most numerous.

**Figure 1.1: Top Employers by Workforce Size,
London Business Directory, 2003/2004**

Employer	Number of Employees (full and part time)
Thames Valley District School Board	7997
London Health Sciences Centre	7895
The University of Western Ontario	5725
St. Joseph's Health Care London	4748
The Corporation of The City of London	3163
London Life Insurance Co.	2875
Fanshawe College of Applied Arts (Dept of Health Sciences)	2850
TD Canada Trust	2732
3m Canada Company	2060
Express Personnel Services	2025

Source: London Business Directory, 2003/2004, London Economic Development Corporation.

**Figure 1.2: London Establishments Listed in the
London Business Directory, 2003/2004,
Industrial Classification by Number of Employees**

Industrial Classification	Number of Employees			Total
	1 to 20	21 to 100	101 and up	
Agriculture, Forestry, Hunting, and Hunting	1	1	-	2
Mining	2	-	1	3
Utilities	3	1	2	6
Construction	249	57	6	312
Manufacturing	231	116	37	384
Wholesale Trade	275	64	12	351
Retail Trade	25	7	2	34
Transportation and Warehousing	57	32	12	101
Information	48	17	6	71
Finance and Insurance	36	13	8	57
Real Estate and Rental and Leasing	40	10	4	54
Professional, Scientific, and Technical Services	426	75	10	511
Management of Companies and Enterprises	2	-	-	2
Administrative Support, Waste Management and Remediation Services	81	30	18	129
Educational Services	22	2	4	28
Health Care and Social Assistance	7	4	7	18
Arts, Entertainment, and Recreation	7	1	4	12
Accommodation and Food Services	3	4	2	9
Other Services (except Public Administration)	51	6	5	62
Public Administration	-	3	6	9
Unknown	4	-	-	4
Total	1570	443	146	2159

Source: London Business Directory, 2003/2004, London Economic Development Corporation.

**Employment in London and Middlesex:
Location, Travel to Work, and Language in
the Workplace**

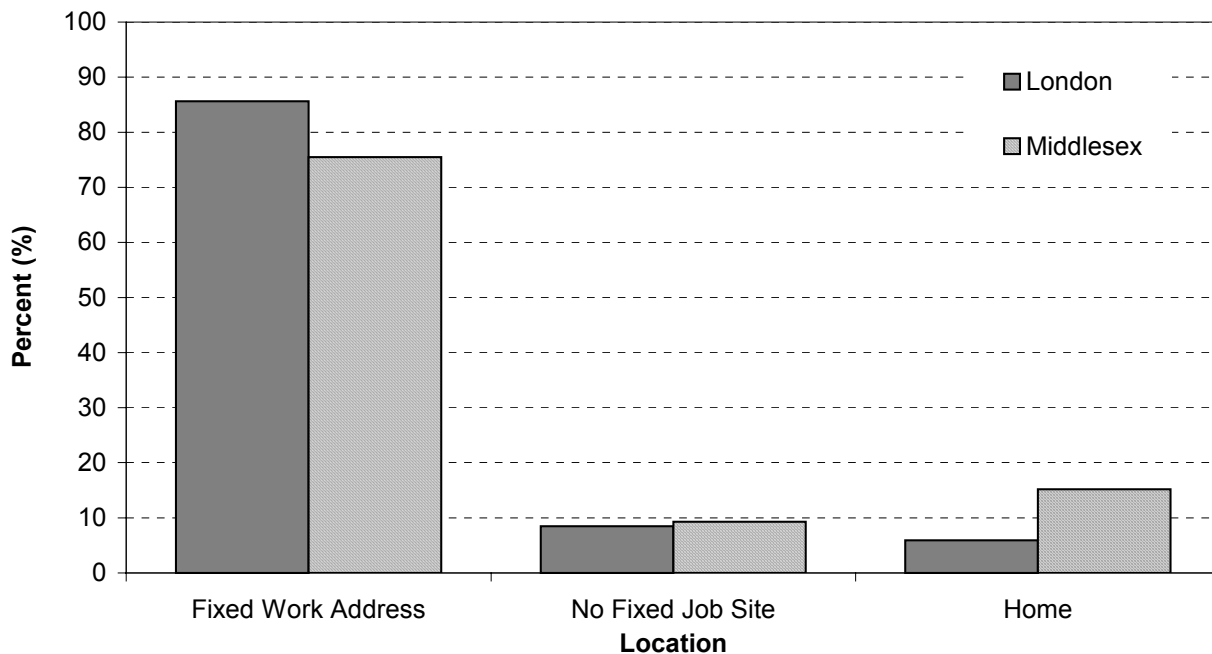
Although a small proportion of London and Middlesex workers (less than 1%) are employed outside of Canada, the majority (84%) of those who work within Canada work at a fixed address away from home. Another 8% work at home, while 9% work at multiple job sites (Figure 1.3). More people in Middlesex County than in the city of London work at home (15% vs. 6%). People who work from their home include farm owners and operators who live and work on their farms.

The majority of workers (78%) drive a motor vehicle to work and another 8% ride as passengers. Only 6% take public transportation, while only 8% walk, bike or use other means of transportation. In the City of London, 7.6% of workers use public transportation

to travel to work, while only 0.3% of Middlesex County residents do so. The lower proportion in Middlesex County likely reflects lack of availability of public transportation outside of the City of London. (Figure 1.4)

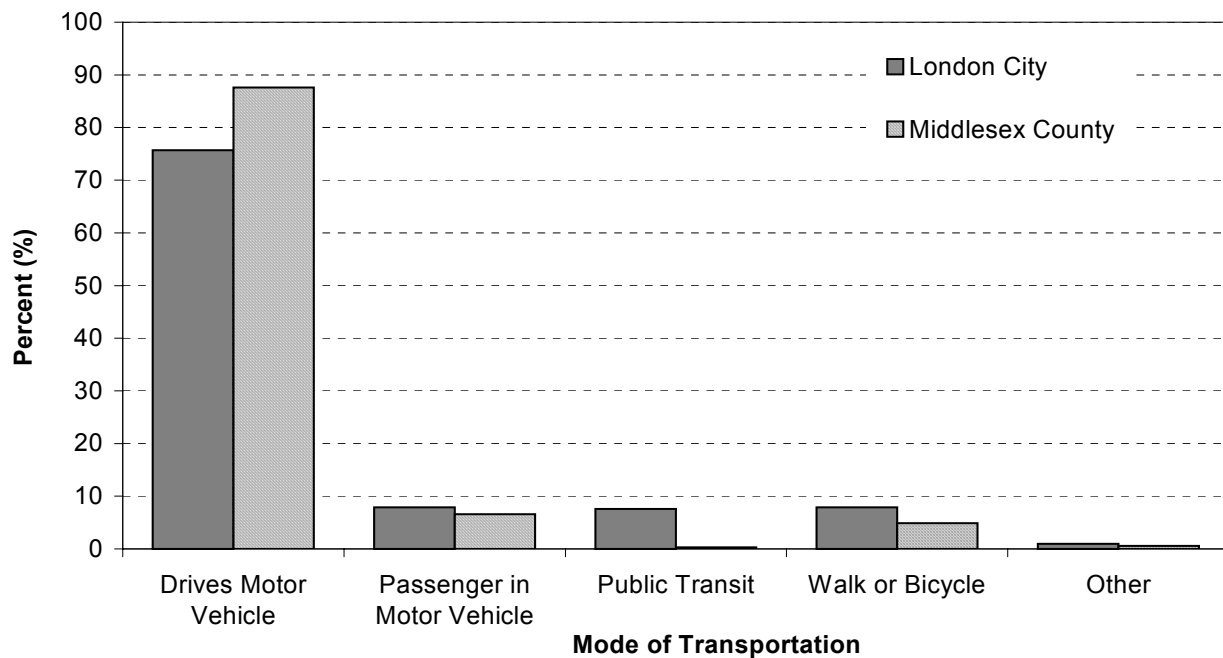
More than 95% of workers in both London and Middlesex speak English at work either most often or on a regular basis. Of other languages, French is the most common language spoken in the workplace in London. Because there are more than 5000 Francophone residents, the city of London has been designated under the French Language Services Act. Under this act, individuals in designated areas are guaranteed the right to receive provincial services in French.¹⁰ In Middlesex County outside of London, Portuguese is the single most commonly spoken language other than English. (Figure 1.5)

Fig. 1.3: Location of Workplace
London and Middlesex Workers, Aged 15+, 2001



Source: Statistics Canada, 2001 Census.

Figure 1.4: Mode of Transportation to Work
London and Middlesex Workers, Aged 15+, 2001



Source: Statistics Canada, 2001 Census.

Figure 1.5: Language Spoken Most Often in the Workplace:
London and Middlesex Workers, Aged 15+, 2001

	City of London		Middlesex County	
	Number	% of total	Number	% of total
English	190135	95.3	39345	97.3
French	3530	1.8	290	0.7
Portuguese	905	0.5	320	0.8
Spanish	990	0.5	45	0.1
Other	4030	2.0	420	1.0

Source: Statistics Canada, 2001 Census.

Methods and Definitions

Data on businesses and institutions was drawn from the London Business Directory, 2003/2004, published by the London Economic Development Corporation. The Directory consists of 2385 establishments operating in the City of London, along with a small number of establishments operating in communities outside of London. Participation in the London Business Directory, while free, is voluntary and the coverage is incomplete. A similar directory was not available for Middlesex County.

Data was also drawn from the Earnings and Work Statistics Community Profile reports on the Middlesex County Census Division and the City of London, 2001 Census, Statistics Canada. Industries are coded according to the North American Industrial Classification System (NAICS).

Workforce Description

Key Findings

- Approximately two-thirds of London and Middlesex residents aged 15 years and over participate in the workforce.
- Gender differences are observed in London and Middlesex across occupational groups. There are proportionately more women in health, finance and education, and proportionately more men in industry, construction, transportation and science.
- People between the ages of 25 and 44 are most likely to participate in the workforce.
- The majority of workers in London and Middlesex have a post secondary school education.
- Proportionately more people work shifts in London and Middlesex than in Ontario as a whole.

Background

Workplace health promotion programs can be tailored to meet the interests and needs of workers. Characteristics of the workforce important for health promotion program planning include age and gender, as well as the level of education and the type of work in which people are engaged.

Non-participants in the workforce include people who are unemployed (both long-term and short term), people caring full-time for children or aged parents, people who are retired, and people unable to work because of physical, emotional, or intellectual disability. Different health promotion strategies need to be in place to reach people who are not part of the workforce.

Among various categories of workers, shift workers constitute a unique and important population to consider when designing workplace health promotion programs. A recent Ontario study showed that shift workers were more likely than day workers to engage in behaviours known to be detrimental to health, such as smoking and not controlling their weight.¹² The study also showed that chronic disease and injury rates were higher among shift workers. Health promotion programs for the unique population of shift workers may require a different approach.

Employment in London and Middlesex

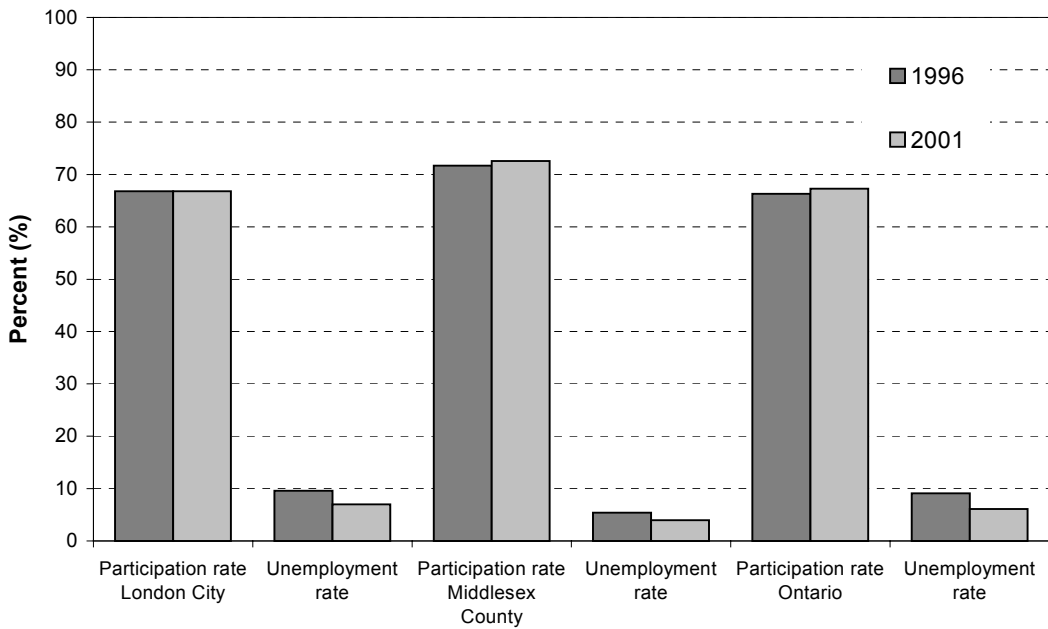
Nearly 213,000 residents of the City of London and Middlesex County are part of the workforce. Workforce participants include people currently working as well as those who are unemployed but who are looking for work. Figure 2.1 shows that according to the 2001 Canadian Census, 67.7% of the region's residents aged 15 years and over are workforce participants. This rate was unchanged from the 67.6% reported at the 1996 Census, and similar to the province-wide rate of 67.3%. Figure 2.1 also shows that in 2001, 6.5% of workforce participants were unemployed and looking for work at the time of the 2001 Census, down from 8.9% in 1996.

Not everyone participates in the workforce, however. As shown in Figure 2.2, workforce participation differs by age. For example, people aged 25 to 44 are most likely to participate in the workforce, and people 65 years of age and over are least likely to participate. Figure 2.2 also shows that within each age group, workforce participation is higher in Middlesex County than in London City and the province as a whole.

Results of the 2001/2002 Rapid Risk Factor Surveillance System (RRFSS) (described below) identify various reasons for non-participation in the workforce. For example, approximately 18% of London and Middlesex adult residents said they were retired; 10% said they were not working because they were in school; 3% said they were caring for family members; and 2% said they were unable to work.

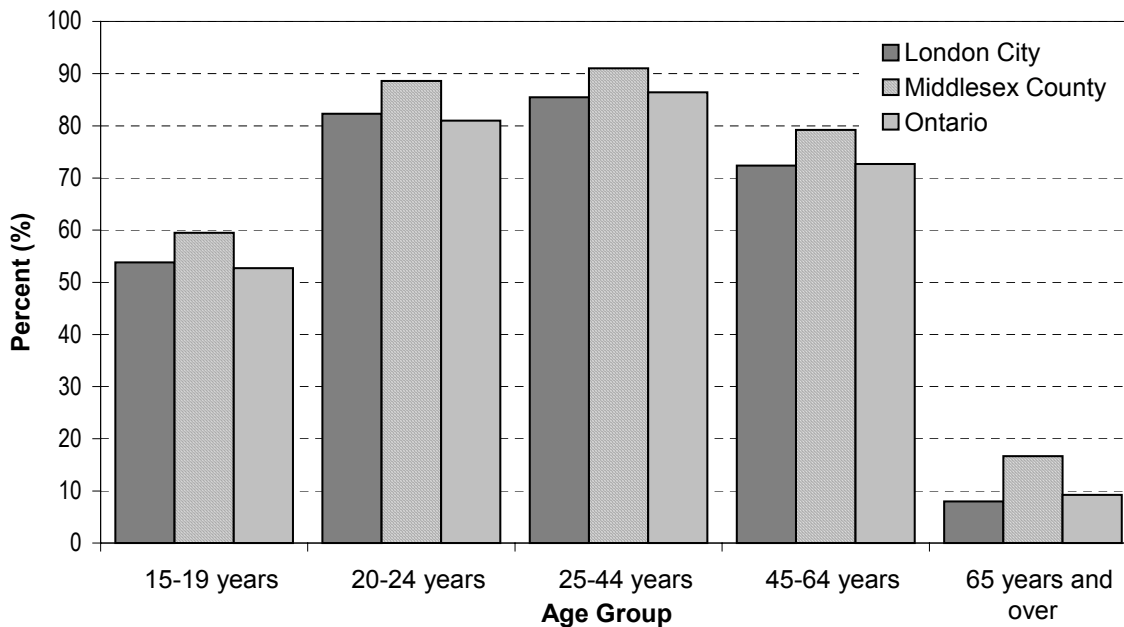
Reasons for not participating in the workforce differ by gender, as shown in Figure 2.3. For example, most family care givers are women. Women are also somewhat more likely to be retired, although a nearly equal proportion of men and women are unable to work because of a disability.

Figure 2.1: Labour Force Participation and Unemployment Rates
 London, Middlesex County, Ontario
 Population Aged 15 and Over, 1996 and 2001



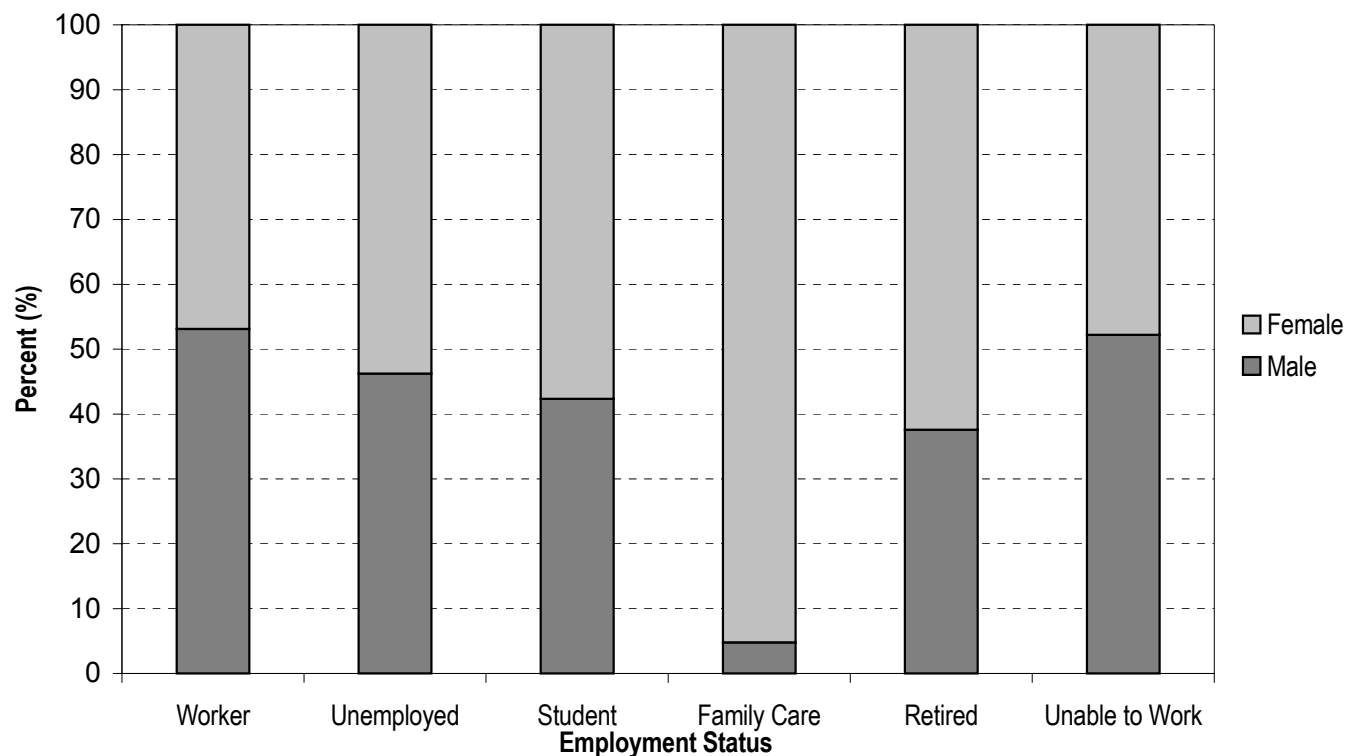
Source: Statistics Canada, 2001 Census

Figure 2.2: Workforce Participation by Age Group
 London, Middlesex County, and Ontario, 2001



Source: Statistics Canada, 2001 Census.

Figure 2.3: Employment Status by Gender, Age 18+
Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January, 2001 - September, 2002.

Occupations in London and Middlesex

As shown in Figure 2.4, the largest proportion (24.2%) of the workforce of London and Middlesex worked in sales and service occupations in 2001. People whose occupations were classified as business, finance and administration made up the second largest group at 17.6%.

Gender preferences are observed across occupation type in London and Middlesex. Figure 2.4 shows that there are more men in primary industries, such as farming, as well as in management. Men also predominate in occupations related to natural sciences, trade, transport, processing and manufacturing. On the other hand, proportionately more women are in occupations related to health, social science, finance, education, and sales and service.

Highest Level of Education of the Workforce of London and Middlesex

Figure 2.5 shows that employed workers in London and Middlesex are well-educated, with approximately 49% being graduates of a post-secondary educational facility, similar to the proportion of workers who are post-secondary school graduates in the province as a whole (48%).

Shift work

A little more than a third (34.7%) of London and Middlesex workers are shift workers (Figure 2.6), higher than the approximately 25% reported for the province as a whole.¹² In London and Middlesex, shift workers are somewhat more likely to be male, as shown in Figure 2.6.

Figure 2.4: Workforce by Occupation and Gender
London and Middlesex, Age 15+, 2001

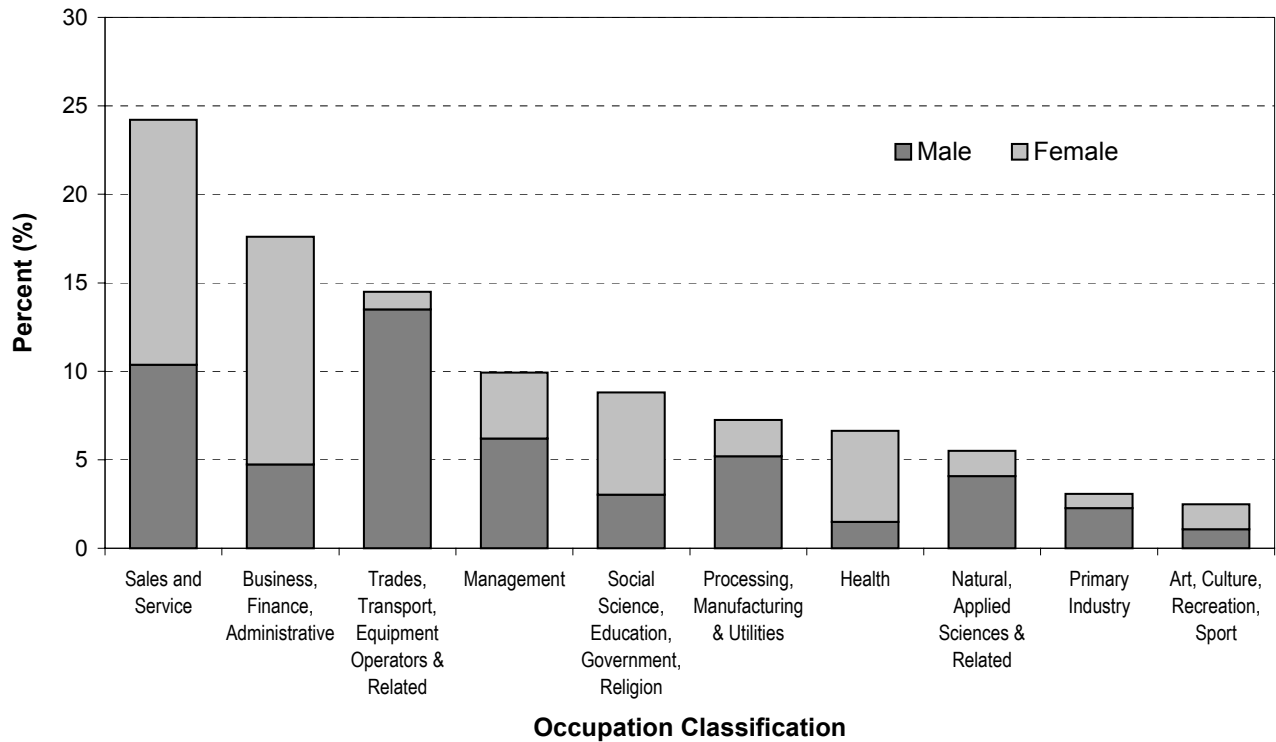


Figure 2.5: Highest Level of Education
Workers, Age 15+
London and Middlesex, 2001

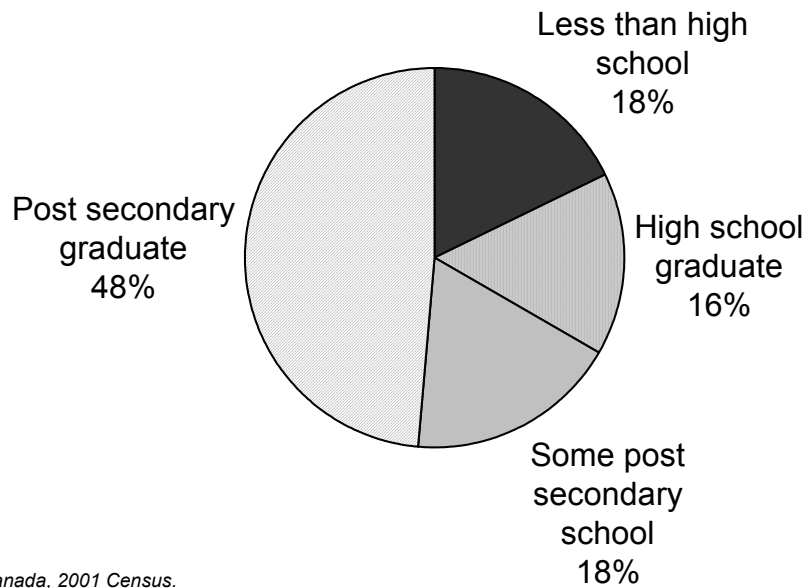


Figure 2.6: Shift Status by Gender, Age 18+
Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January, 2001 - September, 2002.

Methods

Data are from the 1996 and 2001 Censuses conducted by Statistics Canada, and from the Rapid Risk Factor Surveillance System (RRFSS) for 2001/2002, conducted for the Middlesex-London Health Unit by the Institute for Social Research, York University.

Census data were drawn from the Earnings and Work Statistics Community Profile reports on the Middlesex County Census Division and the City of London. In this report, the Experienced Labour Force are those 15 years and older, excluding institutional residents, employed or unemployed, who worked for pay or self-employment in either 2000 or 2001. The Labour Force Participation Rate is defined as the experienced labour force expressed as a percentage of the population 15 years or older. The Employed Labour Force are those 15 years and older who worked during the week prior to census day for pay or self-employment, or without pay in a family farm, business or professional practice, including those absent due to illness, vacation, a labour dispute or any other reason. Occupations are coded by the

National Occupational Classification for Statistics (NOC-S), a revision of the Standard Occupational Classification used in the 1991 and 1996 census.

RRFSS data were collected by telephone survey in a series of 21 monthly waves from January 2001 through September 2002. Households were selected randomly from all households with telephones in Middlesex-London, and respondents 18 years of age and older were systematically selected from within each household. The total sample size was 2120. Responses were weighted and non-responses were excluded from analyses, as were refusals and don't know responses if less than 5% of the valid cases. Differences in proportions were considered statistically significant at $p \leq 0.05$. All proportions calculated with RRFSS data are provided with 95% confidence intervals (See Appendix B).

those giving any of the other responses were categorized as shift workers

Definitions

Employment status (RRFSS)

Employment status categories are derived from the RRFSS question: “Are you currently: employed for wages, self-employed, been out of work for more than one year, been out of work for less than one year, taking care of a family, a student, retired, or unable to work?” The category “unemployed” combines the two categories: “out of work for more than one year,” and “out of work for less than one year.”

Shift status (RRFSS)

Shift status categories are derived from the RRFSS question: “ Which of the following best describes the hours you usually work at your job: a regular daytime schedule or shift, regular evening shift, regular night shift, rotating shift, split shift, on call, or irregular schedule?” Respondents giving the first response were categorized as day workers, while

Lifestyle Behaviour

Key Findings

- One in five workers in London and Middlesex smokes on a daily basis. Over one in four 18 to 24 year old workers smokes on a daily basis.
- Among workers, a majority of those who smoke say they are considering quitting, and of these, most say they are likely to do so within the next six months.
- There were no differences in reported smoking behaviour between day-workers and shift-workers.
- Less than half of full time workers aged 18 to 64 in London and Middlesex are engaging in at least a moderate amount of physical activity during their leisure time.

Background

Continued ability to participate in the workforce is more likely if workers stay healthy and avoid serious injury and chronic illness. Although underlying causes of chronic illnesses are complex and many factors play a role, it is well known that poor nutrition, being overweight, smoking and abusing alcohol increase a person's risk of developing many debilitating chronic diseases. Significant health problems associated with these lifestyle behaviours include heart disease, stroke, kidney disease, many cancers, and adult-onset diabetes.

Recent attention has focussed on the harmful effects of physical inactivity and being overweight. While it is well-known that smoking increases risks of premature mortality, "sedentary living" has joined smoking as one of the two leading causes of premature death.¹³

The majority of workplace health promotion programs developed over the past few decades have addressed worker lifestyle behaviour.¹⁴ Programs promoting or supporting increased physical activity are the most common, but information sessions and interventions addressing smoking cessation, weight control and nutrition are also typical components of such programs. While more and better-controlled research is required to confirm long-term health benefits, research has confirmed the positive short-term effectiveness of physical fitness, nutrition and weight-loss programs.^{15,16}

Programs targeted at smoking cessation have not always been successful, but good participation rates

have been reported for programs incorporating contests and other incentives.¹⁷

Workplace programs dealing with substance abuse have been shown to be effective in changing supervisors' attitudes and knowledge related to detection and referral of workers abusing alcohol or other substances.¹⁸

In addition to the traditional focus on behaviour change, more recent approaches to workplace health promotion have stressed the importance of creating work environments that support healthy lifestyles, including the creation of smoke-free work settings.⁵

The *Mandatory Health Programs and Services Guidelines* specify the following objectives with respect to smoking, alcohol use and physical activity:¹

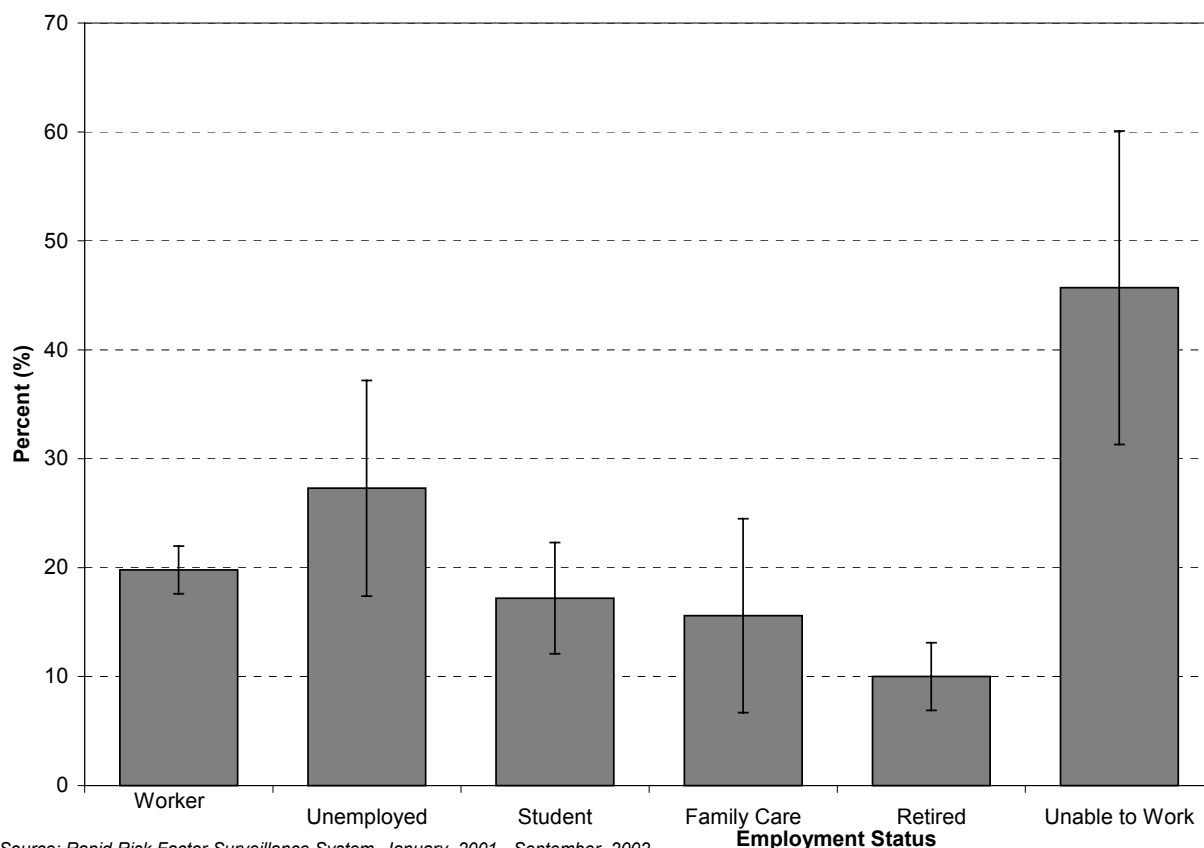
- to reduce the proportion of adult women and men who smoke daily to 15 per cent by the year 2005;
- to reduce the percentage of the adult population who drink more than two drinks per day by 20% by the year 2010.
- to increase to 40 per cent the proportion of all adults who include at least 30 minutes of accumulated, moderate physical activity on most if not all days of the week by the year 2010.

These guidelines also specify that the Board of Health work with workplace personnel and local trade and business associations to develop and implement guidelines to reduce the risk of chronic diseases. These activities are set out in Appendix A.

Smoking prevalence

According to results of the Rapid Risk Factor Surveillance System, approximately 24% of the adult population in London and Middlesex County smokes; just under 20% (18.5%) smokes daily. This proportion exceeds the objective set out in the *Mandatory Health Programs and Services Guidelines* to reduce the proportion of adults who smoke daily to 15% by the year 2005. When rates of smoking are compared by work status as in Figure 3.1, it can be seen that people in the workforce are significantly more likely to smoke daily than people who are retired.

Figure 3.1: Daily Smoking Rate by Employment Status, Age 18+
Middlesex-London Health Unit, 2001 - 2002



Smoking status among workers by age

Differences in smoking rates are also observed among workers of different ages. As seen in Figure 3.2, more than one in four workers between 18 and 24 smokes daily, compared to approximately 15% of workers between 45 and 64. And while workers in the youngest age group have the highest rate of daily smoking, they are also the most likely to have never started smoking. Figure 3.2 also shows that workers who are former smokers are most likely to be between 45 and 64.

Smoking status among workers by gender and shift work

Figure 3.3 shows that there is no significant difference in rates of daily smoking between male and

female workers, nor are shift workers in London and Middlesex more likely to smoke than day workers.

Intention to quit smoking

A large majority of male and female workers who smoke say they are considering quitting, and of these, most say they are likely to do so within the next six months (Figure 3.4).

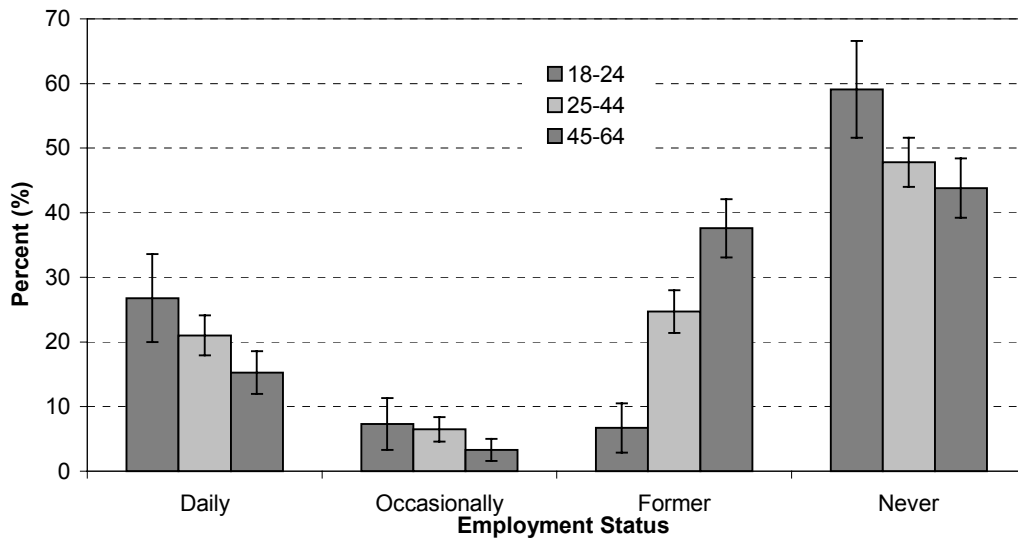
Alcohol use among workers and non-workers

Alcohol use is more pervasive than smoking in London and Middlesex. Moderate alcohol consumption may have some health benefits. For example, light to moderate alcohol consumption is associated with a decreased risk of cardiovascular disease.¹⁹ Excessive alcohol use, however, is known to be associated with many harmful health and social

consequences. The majority of adults in London and Middlesex (86% overall) say they had at least one alcoholic beverage over the past year. Alcohol use varies, however, among sectors of the population (Figure 3.5). Workers, the unemployed, and students, for example, are more likely to have had at least one alcoholic beverage in the past year than people taking care of family members, retired workers and people unable to work.

**Figure 3.2: Smoking Status by Age Group,
Workers aged 18-64**

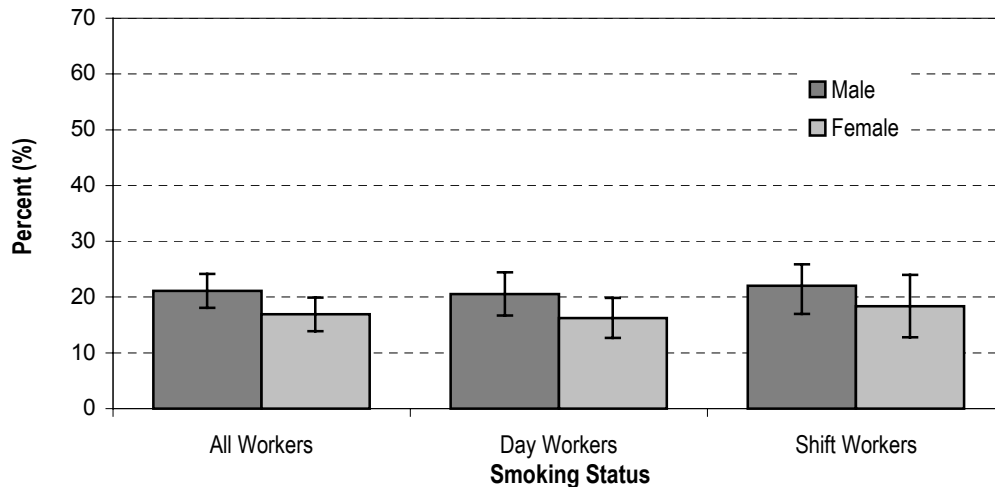
Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, September, 2001 - January, 2002.

**Figure 3.3: Daily Smoking Rate by Gender and Shift Status
Workers, Aged 18+**

Middlesex London Health Unit, 2001-2002

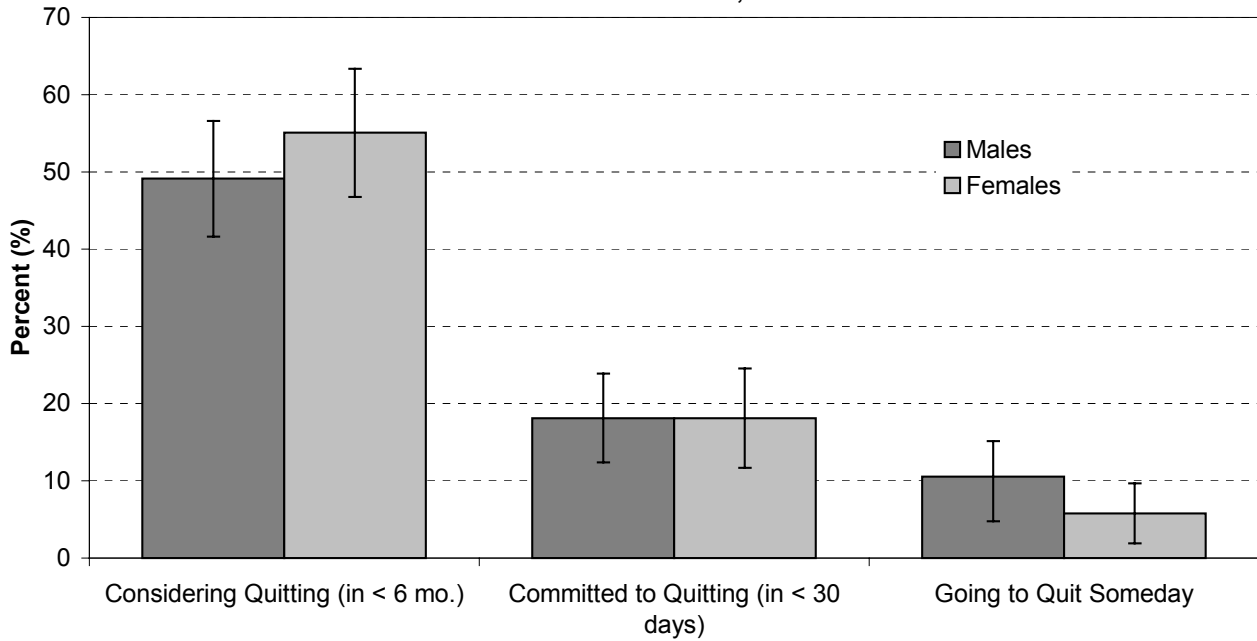


Source: Rapid Risk Factor Surveillance System, January 2001 – September 2002

Figure 3.4: Readiness to Quit Smoking by Gender

Workers 18 +

Middlesex-London Health Unit, 2001-2002

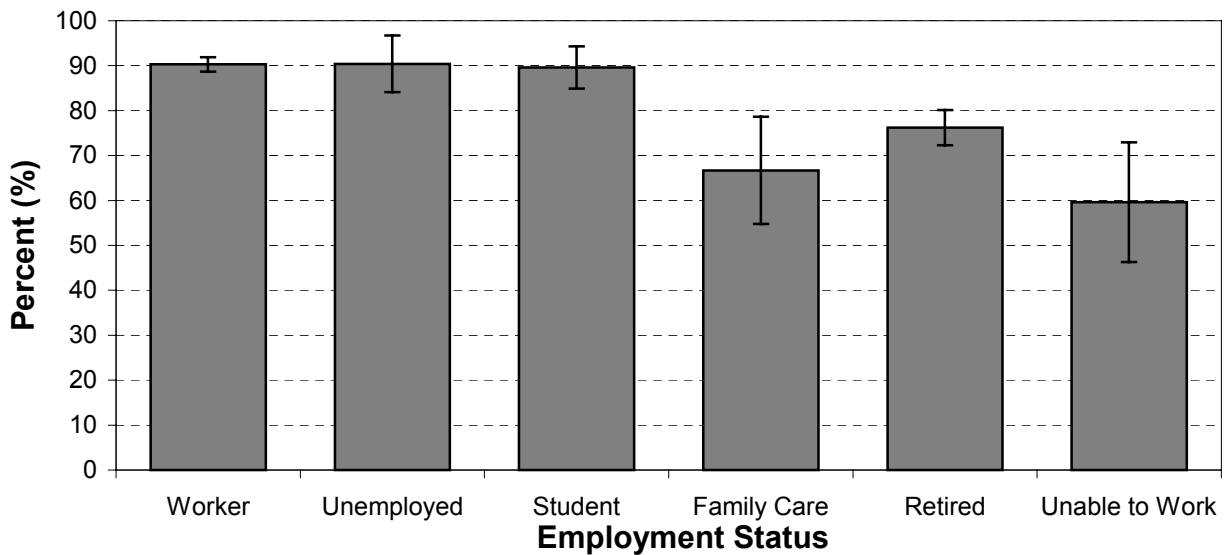


Source: Rapid Risk Factor Surveillance System, January, 2001 - September, 2002.

Figure 3.5: Alcohol Used in Past Year by

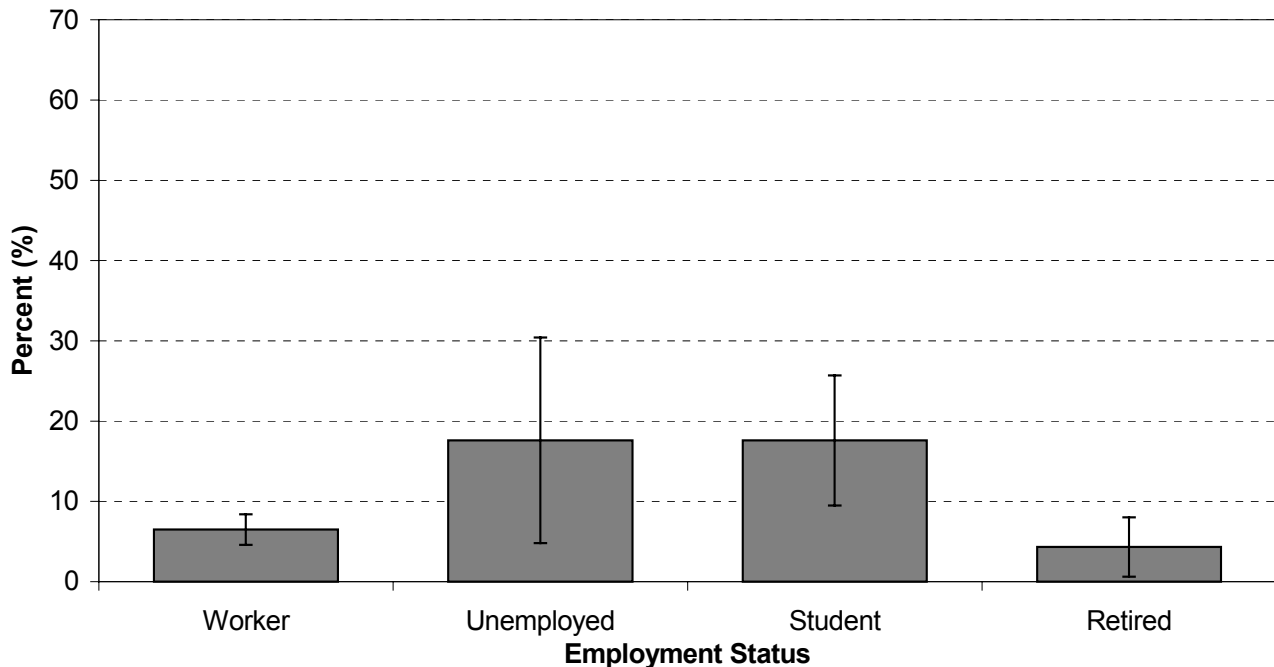
Employment Status, Age 18+

Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January, 2001 - September, 2002.

Figure 3.6: Non-Adherence to Gender-Specific Low Risk Drinking Guidelines by Employment Status - Males, Age 18+
Middlesex London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

A much smaller proportion ($6.0 \pm 1\%$ overall) say they consume alcohol in excess of the gender-specific high-risk guidelines established in 1997 by the Addiction Research Foundation of Ontario and Canadian Centre on Substance Abuse.² These guidelines state that people should consume no more than two standard drinks on any day, and that men should limit weekly intake to 14 or fewer drinks, while women should limit weekly intake to nine or fewer drinks.

Differences in adherence to these guidelines are noted across employment status categories, but only for men. As shown in Figure 3.6, the rate of high-risk drinking is significantly lower among male workers ($4.9 \pm 4.2\%$) than among male students ($11.3 \pm 4.4\%$) and unemployed men ($11.4 \pm 7\%$). There are no significant differences in rates of high-risk drinking between day-workers and shift-workers, or between working men and working women.

Physical Activity

Canada's *Physical Activity Guide to Healthy Active Living*²⁰ recommends the following minimum amount of physical activity for people aged 25 to 55:

- One hour of low-intensity activity every day or
- 30–60 minutes of moderate-intensity activity 4 to 7 days a week or
- 20–30 minutes of vigorous-intensity activity 4 to 7 days a week.

Results of the 2000/2001 Canadian Community Health Survey show that just under half of full time workers aged 18 to 64 in London and Middlesex are engaging in at least a moderate amount of physical activity during their leisure time (data not shown). As shown in Figure 3.7, the rate of physical activity varies across age group among people in the workforce; younger workers are more likely to be physically active than older workers. Rates of physical activity did not differ significantly between working men and working women (Figure 3.8).

Figure 3.7: Physically Active by Age
Full Time Workers Aged 18-64
 Middlesex-London Health Unit, 2000 - 2001

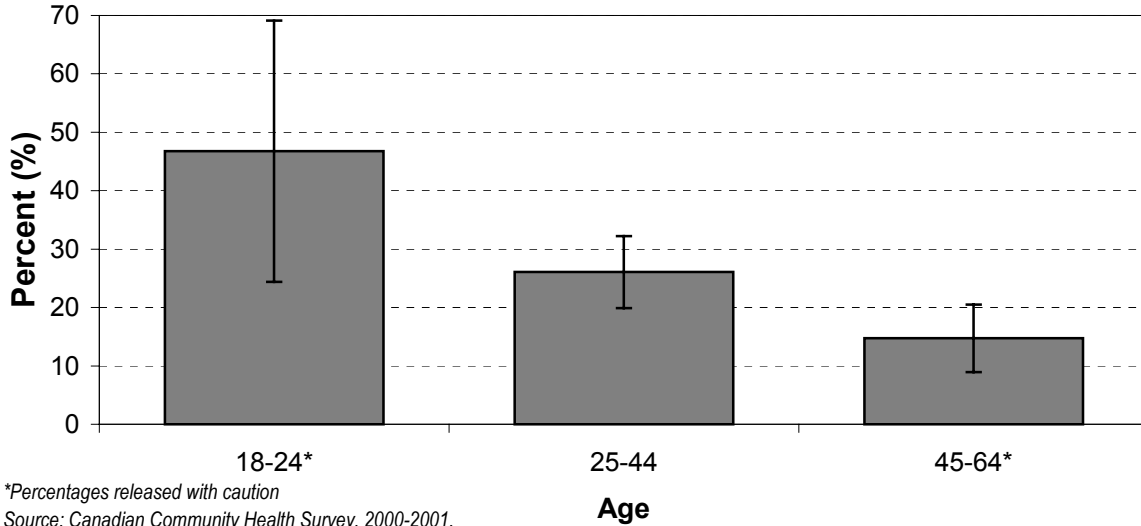
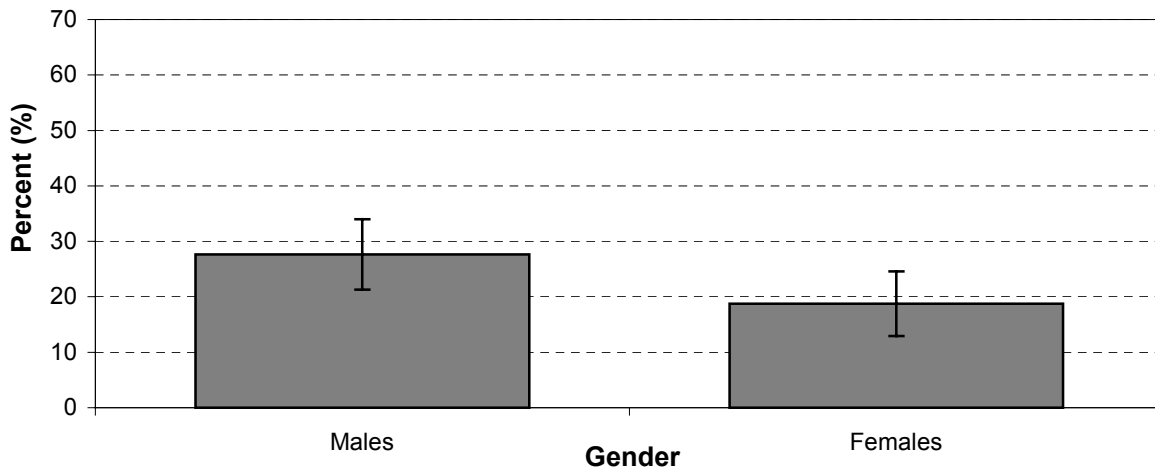


Figure 3.8: Physically Active by Gender
Full Time Workers Aged 18-64
 Middlesex-London Health Unit, 2000 - 2001



Methods

Data on tobacco and alcohol use are from the Rapid Risk Factor Surveillance System (RRFSS), conducted for the Middlesex-London Health Unit by the Institute for Social Research, York University.

RRFSS data were collected by telephone survey in a series of 21 monthly waves from January 2001 through September 2002. Households were selected randomly from all households with telephones in Middlesex-London, and respondents 18 years and older were systematically selected from within each household. The total sample size was 2120. Responses were weighted and non-responses were excluded from analysis, as were refusals and don't know responses if less than 5% of the valid cases. Differences in proportions were considered statistically significant at $p \leq 0.05$. All proportions calculated with RRFSS data are provided with 95% confidence intervals (See Appendix B).

Definitions

Employment status (RRFSS)

Categories are derived from the RRFSS question: "Are you currently: employed for wages, self-employed, been out of work for more than one year, been out of work for less than one year, taking care of a family, a student, retired, or unable to work?" The category "unemployed" combines the two categories: "out of work for more than one year," and "out of work for less than one year."

Shift status (RRFSS)

Shift status categories are derived from the RRFSS question: "Which of the following best describes the hours you usually work at your job: a regular daytime schedule or shift, regular evening shift, regular night shift, rotating shift, split shift, on call, or irregular schedule?" Respondents giving the first response were categorized as day workers, while those giving any of the other responses were categorized as shift workers.

Smoking (RRFSS)

A **smoker** is someone who indicated that they currently smoke either every day (**daily smoker**) or on some days (**occasional smoker**).

A **former smoker** is someone who has smoked at least 100 cigarettes in their life but who currently does not smoke at all.

Never smoked means not having smoked at least 100 cigarettes.

To determine intentions regarding quitting smoking, current smokers were asked: "How do you feel about quitting smoking: are you currently NOT thinking of quitting, considering quitting in the next 6 months, or committed to quit smoking in the next 30 days?" In addition, a separate response category was allotted to respondents who volunteered that they were going to quit, but were not sure when.

Alcohol use (RRFSS)

Respondents were asked directly if they drank alcohol in the past year. Those that did were asked directly whether they drank every day, how many days a week do they drink alcohol, and on the days when they had a drink, about how many drinks did they have on average. From these questions the total number of drinks per week was derived, to which was applied the gender specific low-risk drinking limits, namely less than or equal 9 drinks for females and less than or equal 14 drinks for males.

Work status and physical activity (Canadian Community Health Survey 2000/2001)

Data on leisure time physical activity was drawn from the Canadian Community Health Survey (CCHS) 2000/2001, conducted by Statistics Canada. CCHS data were obtained from the share file of the Health Planning Branch, Ontario Ministry of Health and Long Term Care. Bootstrapping techniques were employed to produce the coefficient of variation (CV) and 95% confidence intervals (CI's); data with CV's greater than 33.3% were excluded. Included in the analysis of this data set were respondents aged 18 through 64; workers refer to full-time workers, shift-workers to all but those working a "regular daytime schedule or shift".

Full time worker (CCHS)

A full time worker is defined as someone who has had a job throughout the year with 30 or more hours per week and has also said yes to having worked in the past twelve months.

Physical activity index (CCHS)

This index is a derived measure with three levels: active, moderate, inactive. Assignment to a level is calculated according to responses to questions about the frequency, duration and intensity of leisure-time physical activities.

Health Status

Key Findings

- Workers rate their health status higher than people who are retired, unemployed or unable to work.
- Chronic disease is more prevalent among older workers than younger workers, with hypertension being the most common chronic condition among workers.
- The proportion of workers in the healthy weight category declines with age.
- About one worker in five report having a fall in the past year; younger workers tend to have more minor falls.

Background

Canadians are fortunate to have a higher life expectancy than people in many other countries. Chronic diseases are common, however, especially among older Canadians. In fact, about 80% of Canadians over 65 report being troubled by one or more chronic conditions.²¹ Importantly, many chronic diseases develop slowly over several years, beginning while people are still part of the workforce.

Common chronic diseases that affect Canadians include heart disease, arthritis, hypertension, diabetes, asthma, and migraine headache. Although the prevalence of some diseases such as arthritis and hypertension has decreased in Canada in the past 20 years, others such as diabetes and asthma have become more prevalent.²¹

Chronic diseases not only shorten life, but also reduce the number of years people live without disability. Patterns of chronic disease, however, are known to have different impacts on men and women. A study from Statistics Canada, for example, showed that for women, diabetes, arthritis, and physical inactivity were most likely to reduce disability-free life expectancy, while for men, impacts were greatest for diabetes, smoking, arthritis and cancer.²²

Overall, cardiovascular disease is the most costly chronic disease, not only in terms of the direct costs of care and treatment, but also in terms of indirect costs such as lost work days and foregone earnings because of premature death.²³ Heart disease and stroke are largely preventable. Yet, eight of 10 Canadians aged 20 to 59 report having at least one modifiable risk factor for cardiovascular disease.²³ As seen in Section 3 of this report, approximately 20% of

the London and Middlesex workforce smokes daily, while about half reports being physically inactive. These and other known risk factors for cardiovascular disease, such as obesity, also increase the risk of developing several other chronic diseases.²³

In addition to being a risk factor for many other diseases, obesity is considered by some to be a chronic disease.²⁴ The prevalence of obesity has increased dramatically and has been estimated to be responsible for about 2.4% of total health expenditures for all diseases in Canada.²⁵ Among Canadians, the prevalence of obesity has been observed to increase with age up to 55, and is also more prevalent among men than women up to age 60.²⁵ A specific objective set by the board of health within the *Mandatory Health Programs and Services Guidelines*¹ concerns healthy weights. The objective is:

- *to slow the decrease in the proportion of adults ages 20-64 with healthy weight status (Body Mass Index 20-27) by the year 2010*

Preventive efforts begun while people are still young, before many chronic diseases begin to develop, are not only likely to result in increased well-being in the present, but to have major benefits in later life. It makes sound sense, therefore, to provide health promotion messages, programs, and supports for behavioural change in the workplace, where many adults can be reached at a time when behavioural change can help to insure more years of disability-free living.

Prevention programs can also be developed to prevent injury or lessen the effects of other chronic conditions that could interfere with a person's ability to work. Serious falls, for example, can lead to time off work, long-term disability, or even death. The Canadian Centre for Occupational Health and Safety reports that about 60,000 workers are injured each year due to falls.²⁶ About one-third of these result in time lost from work.²⁷ More seriously, about 20 people in Ontario die each year as a result of falls in the workplace. Research in France showed that falls in the construction industry were related to age, sleep disorders, hearing disorders, being overweight, and lack of sporting activities, a proxy measure of physical inactivity.²⁸ Research in Denmark showed that smaller construction companies were found to have a higher incidence of serious falls than larger companies.²⁹ Results of such research can inform the development of workplace health promotion programs to better educate workers about ways they can

reduce their risks of falling, in addition to the efforts of workplace occupational health and safety committees to ensure safety measures are adhered to.

Migraine headaches are another chronic problem experienced by many people in the workforce. Migraine sufferers can experience a high level of disability in all aspects of their lives, including their work lives.³⁰ A Canadian study found that about 20% of migraine sufferers reported taking time away from work because of migraine headaches.³¹ Workplace health promotion programs can help by educating both migraine sufferers and employers. Employers can insure proper lighting and provide anti-glare computer screens, for example. Migraine sufferers can be educated to change position and take stretch breaks to help avoid the onset of migraines. Employers can help also by providing places for employees to take medication for their migraines and allowing the employees the time for the medication to take effect.³²

Self-Rated Health Status

Self-reports of health status have been shown to be correlated with many objective measures of health status, as well as predicting future health.¹³ As shown in Figure 4.1, 68% of working people report their health to be excellent or very good, significantly higher than do people who are unemployed, retired, or unable to work.

There were no significant differences in self-rated health status between day-workers and shift workers, male and female workers, or between younger and older workers (data not shown).

Chronic Disease

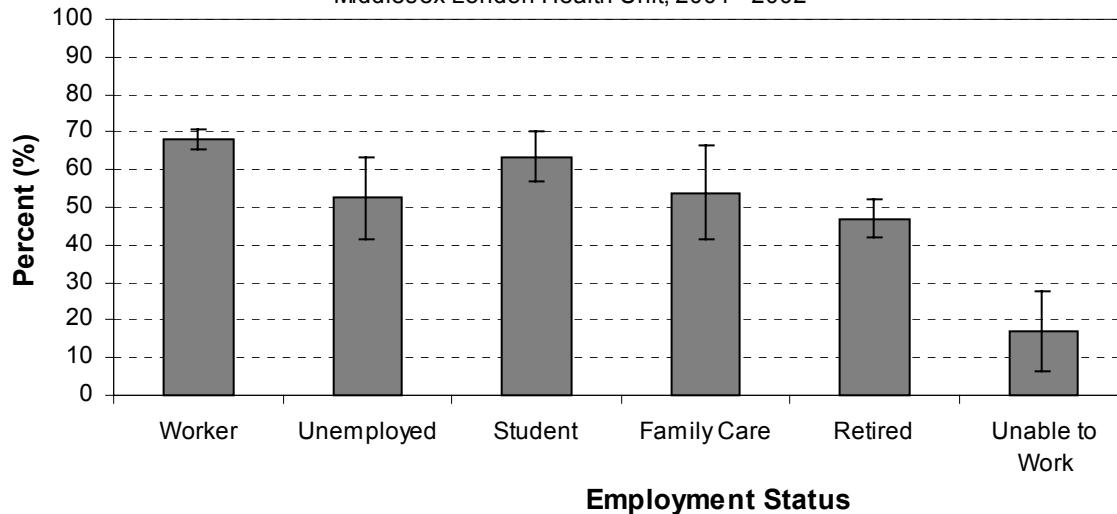
Figure 4.2 shows that the prevalence of chronic disease (see Definitions below) among workers is significantly lower than among those unable to work and people who are retired.

There are no differences in the prevalence of chronic disease between day-workers and shift workers, or between male and female workers. Proportionately more workers aged 45 to 64 are likely to have a chronic disease (32.9 ± 4.4%) than younger workers aged 18 to 24 (19.5 ± 6.1%) and workers aged 25 to 44 (16 ± 2.8%), as shown in Figure 4.3.

Hypertension is the most commonly reported chronic disease among working people, affecting 10.4% (± 1.7%) of this group. Asthma is the next most prevalent chronic condition among workers, at 7% (± 1.4%), followed diabetes, at 3.2% (± 1.4%).

Figure 4.1: Excellent/Very Good Self-Rated Health by Employment Status, Age 18+

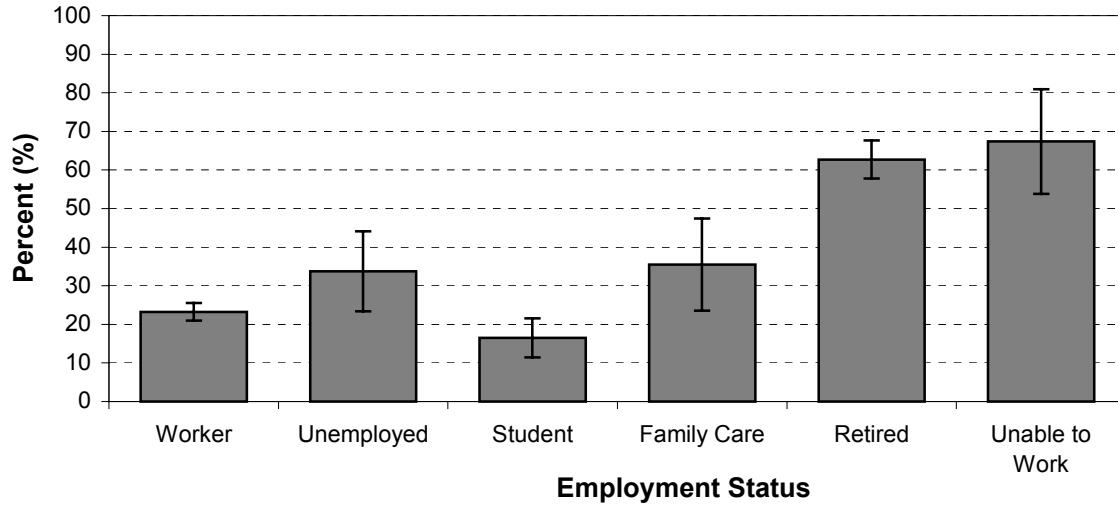
Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

Figure 4.2: Chronic Disease Prevalence by Employment Status, Age 18+

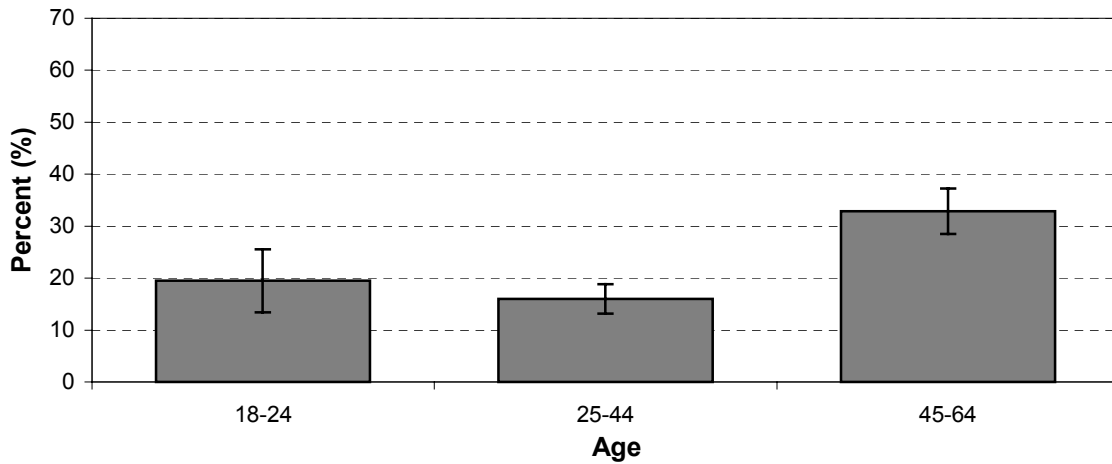
Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

Figure 4.3: Chronic Disease Prevalence by Age Workers Aged 18 - 64

Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

Healthy Weight Status

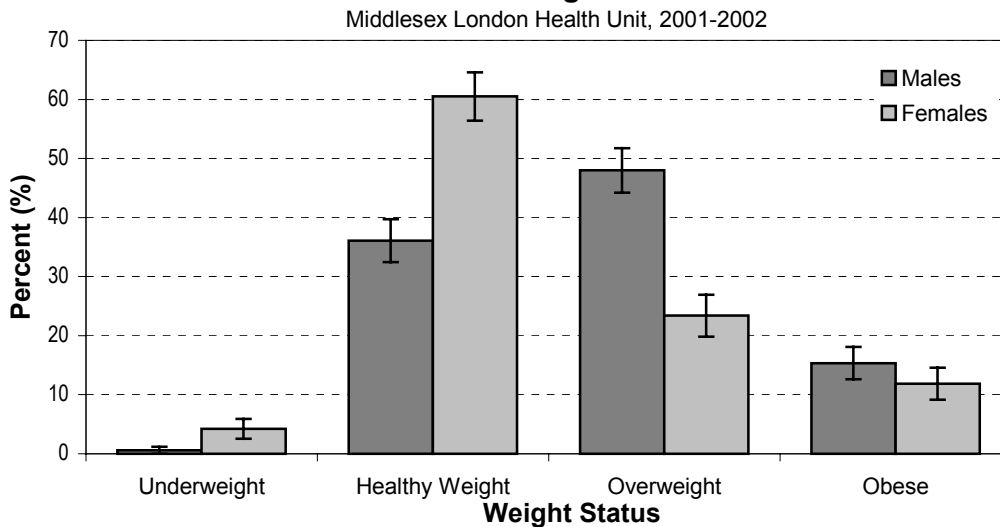
The Body Mass Index (BMI), is an index that takes into account a person’s weight and height and is considered to be indicative of health risk. Current international standards define a healthy weight status to be a BMI between 18.5 to 24.9, while a BMI less than 18.5 is underweight, 25 to 29.9 is overweight, and 30 and over is obese.

Body Mass Index (based on self-report) differs significantly among workers by both age and gender. Figure 4.4 shows that the proportion of workers in the healthy weight category declines from a high of nearly 70% in the 20 to 24 age group, to a low of just under 40% within the 45 to 64 year group. Conversely, the proportion of workers in the overweight category declines from a high of nearly 50% among workers 45 to 64, to a low of around 20% among the 20 to 24 year olds.

There are significant gender differences within BMI categories among workers between the ages of 20 and 64, as shown in Figure 4.5. More female workers than males are classified as under-weight and as healthy weight. Moreover, there are proportionately more male (48 ± 3.8%) than female workers (23.4 ± 3.5%) in the overweight category, while there is relative gender parity in the obese category.

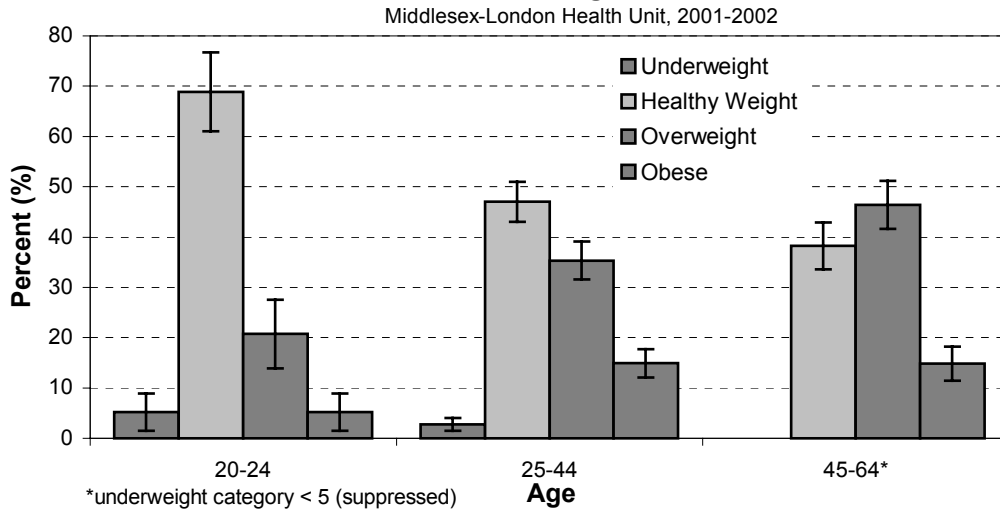
Among workers, we found no significant difference between day-workers and shift-workers within any of the four categories of weight status (data not shown).

**Figure 4.4: Weight Status by Gender
Workers Aged 20-64**



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

Figure 4.5: Weight Status by Age, Workers Aged 20-64



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

Falls

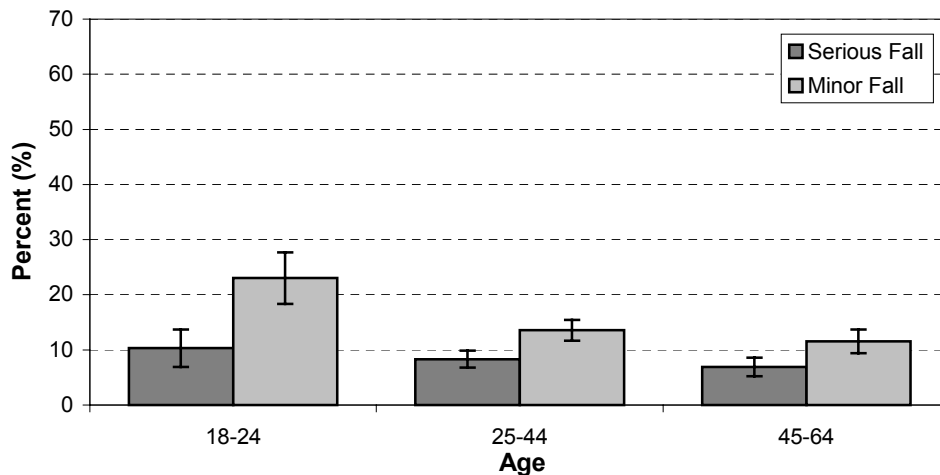
Among people unable to work, 24.4% ($\pm 12.6\%$) had experienced a fall serious enough to limit activity in the previous 12 months. Workers were significantly less likely to have reported having had a serious fall over this time period ($8.1 \pm 1.5\%$). Among the workers, no differences were seen with respect to shift status or gender. However, as shown in Figure 4.6, there was a greater incidence of minor falls among younger workers ($23.0 \pm 6.4\%$) compared to those aged 25 to 44 ($13.6 \pm 2.6\%$) and those aged 45 to 64 ($11.6 \pm 3.0\%$).

Migraines

Many London and Middlesex workers suffer from migraine headache. According to the Canadian Community Health Survey 2000/2001, just under 10% ($9.9 \pm 2.8\%$) of fulltime workers report having migraine headaches (as diagnosed by a health professional). There are no significant differences in the prevalence of migraine headaches between shift-workers and day-workers, nor between male and female workers.

Figure 4.6: Falls by Age Workers Aged 20 - 64

Middlesex London Health Unit, 2001-2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Methods

Data are from the Rapid Risk Factor Surveillance System (RRFSS) and the Canadian Community Health Survey (CCHS) (See 'Methods,' Section 3 of this report).

RRFSS data were collected by telephone survey in a series of 21 monthly waves from January 2001 through September 2002. Households were selected randomly from all households with telephones in Middlesex-London, and respondents 18 years and older were systematically selected from within each household. The total sample size was 2120. Responses were weighted and non-responses were excluded from analysis, as were refusals and don't know responses if less than 5% of the valid cases. Differences in proportions were considered statistically significant at $p \leq 0.05$. All proportions calculated with RRFSS data are provided with 95% confidence intervals (See Appendix B).

Data on migraine headache were drawn from the Canadian Community Health Survey (CCHS) 2000/01, conducted by Statistics Canada. CCHS data were obtained from the share file of the Health Planning Branch, Ontario Ministry of Health and Long Term Care. Bootstrapping techniques were employed to produce the coefficient of variation (CV) and 95% confidence intervals (CI's); data with CV's greater than 33.3% were excluded. Workers refer to full-time workers, shift-workers to all but those working a "regular daytime schedule or shift". A full time worker is defined as someone who has had a job throughout the year with 30 or more hours per week and has also said yes to having worked in the past twelve months.

Definitions

Self-rated Health Status

In the RRFSS, self-rated health status was asked directly via the question: "Would you say your general health is: excellent, very good, good, fair, or poor?" For analysis, the first two and last two response options were collapsed.

Chronic Disease

In the RRFSS, chronic disease was probed through a series of questions beginning with: "Have you ever been TOLD BY A DOCTOR or other health care professional that you have any of the following disorders: high blood pressure, asthma (current), diabetes, or any other chronic disease or disorder such as heart disease, cancer, or thyroid disorder? Respondents were coded as having a chronic disease if they answered yes to any of the options.

Body Mass Index

Body Mass Index (from RRFSS) was calculated according to the formula: $\text{weight (kg.)} \div \text{height (m.)}^2$. BMI was then divided into four categories: underweight = BMI less than 18.5, healthy weight = BMI between 18.5 and 24.9, overweight = BMI 25.0 to 29.9 and obese = BMI 30.0 and over. Analyses of BMI were conducted only for respondents aged 20 to 64.

Falls

Falls were ascertained by a pair of questions in the RRFSS, the first being "Falling downstairs, off a ladder, or on an icy walkway or tripping and falling down over something left on the floor, happen to many people every year. Have you had a fall in the last 12 months?" Those who answered yes were further probed: "Did your fall result in an injury that was serious enough to make it difficult to walk, get dressed, go to work, or do most of the things you normally do?" A respondent answering yes to both questions was considered to have a serious fall; yes to the first question only was classified as a minor fall; and no to the first question was classified as no fall.

Migraine Headache

Data on migraine headache was drawn from the Canadian Community Health Survey 2000/2001, described above. Respondents were asked directly: "Remember, we're interested in conditions diagnosed by a health professional. Do you have migraine headaches?"

Work and Living Environments

Key Findings

- More than a third of fulltime workers in London and Middlesex report high levels of work stress.
- About half of London workers said they supported a total ban on workplace smoking prior to the Smoke Free Workplaces By-Law PH-11 coming into effect in the City of London.
- Support for a ban on smoking in the workplace is greatest among female workers, day-workers and older workers.
- Nearly one in five workers reports there is a regular smoker in their household, although approximately 60% of workers' households are completely smoke free.

Background

Engaging in work means that there are certain demands on the individual—on their time, energy, and attention, for example. Places where people work are usually environments where contact occurs with various other people, such as co-workers, clients, supervisors, customers or patients. Meeting work demands and maintaining work-related relationships can contribute to our sense of accomplishment and self esteem, as well as feelings of belonging and being supported. But work demands and work relationships can also be sources of stress and conflict. Moreover, the work environment—which may be the home, the farm, an office, a construction site, a vehicle—can also be a source of exposure to hazards that increase one's risk of injury or ill-health.

Exposure to stress in the work environment has also been shown to be potentially harmful to workers' health. While some amount of stress and conflict cannot be avoided and may lead to higher productivity and better relationships, too much can be harmful. Excessive stress is known to be associated with poorer mental health,³³ as well as physical symptoms,³⁴ and a greater likelihood of developing chronic illnesses such as cardiovascular disease.³⁵ For example, the National Population Health Survey administered by Statistics Canada in 1994/1995 and 1998/1999 showed that people who reported high levels of stress in 1994/1995 were significantly more likely than those who did not to have been diagnosed with a chronic illness by 1998/1999.³⁴ Results of this survey also showed that specific work-related stresses such as low co-worker support and job insecurity were related to migraine headaches, symptoms of psychological

distress, as well as a greater likelihood of having suffered a work-related injury in the previous year.³⁴

High levels of stress can also lead to people developing or maintaining poor health habits. The results of a survey of over 12,000 people in 26 worksites showed that people reporting high stress were more likely to have higher intakes of dietary fat, exercise less, smoke more, and be less likely to quit smoking.³⁶

Costs of excessive workplace stress extend beyond the individual, and can have an impact on employers and co-workers. Workplace stress has been shown to lead to higher rates of absenteeism and lower productivity, as well as increasing overall health care costs.³⁷

Some employers provide help for workers to deal with high stress by offering employee assistance plans (EAP) or other supports. Employee Assistance Plans provide workers with confidential access to professional counseling services for help with personal or work-related problems. But researchers caution that employers also need to consider conditions within the workplace, not just helping employees to cope with existing stress.⁷ Scrutiny of management practices and workloads in addition to establishing and enforcing policies to prevent harassment and discrimination are some of the steps that employers can take to alleviate excessive workplace stress for their employees.¹³

Exposure to second-hand smoke in the workplace and at home is another modifiable aspect of workers' environments that may affect health. Although contrary evidence has been reported,^{38,39} researchers have found that environmental tobacco smoke (ETS)—or “second-hand” smoke—is associated with increased risks of mortality from diseases such as lung cancer and coronary heart disease among people who have never smoked.^{40,41} An added justification for keeping workplaces smoke-free is that research has shown that smoke-free workplaces lead to higher quit rates and reduced smoking among current smokers.⁴²

Legislation has been passed in many jurisdictions banning smoking in the workplace. In the City of London, the Smoke Free Workplaces By-law, PH-11, came into effect on July 1, 2003.⁴³ This by-law “prohibits smoking in any enclosed, indoor area in which an employee works” including taxicabs, but excluding private residences. As well, the

Corporation of the County of Middlesex By-Law #5682 came into effect August 1, 2003 prohibiting smoking in public places and workplaces in the County of Middlesex.⁴⁴

The *Mandatory Health Programs and Services Guidelines*¹ specify the following objectives with respect to environmental tobacco smoke. These are:

- to increase the proportion of smoke-free public places and workplaces to 100 per cent by the year 2005;
- to increase the proportion of smoke-free homes by the year 2010.

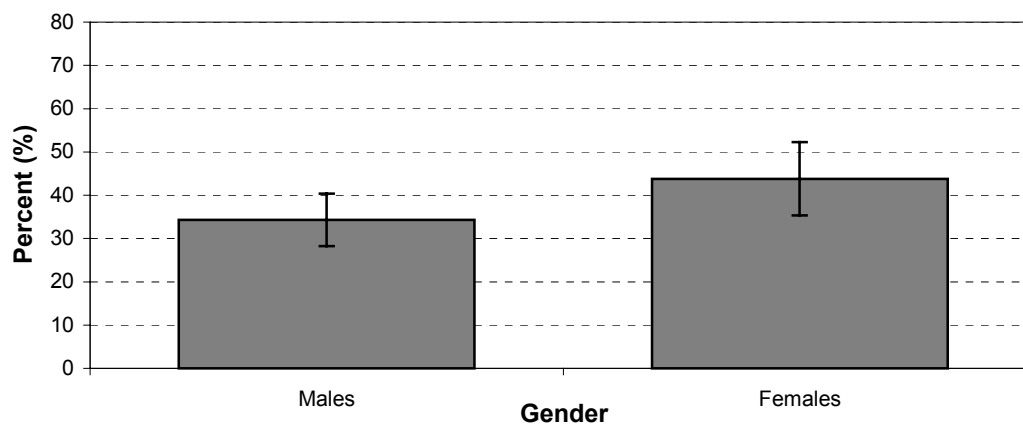
Stress

The proportion of fulltime workers in London and Middlesex with high self-perceived work stress (score of 4 or 5) is $38.3 \pm 5.0\%$, not significantly higher than the proportion within the Southwest Ontario workforce ($33.3 \pm 2.0\%$) and the proportion in Ontario as a whole ($35.2 \pm 1.1\%$). Within the London and Middlesex fulltime workforce, the prevalence of high self-perceived work stress is somewhat lower for fulltime shift-workers ($32.8 \pm 8.7\%$) than fulltime day-workers ($41.0 \pm 6.2\%$), although the difference is not significant. Figure 5.1 shows that among all fulltime workers, females are somewhat more likely than males to report high levels of work stress, but again, this difference does not reach statistical significance.

Workplace Smoke

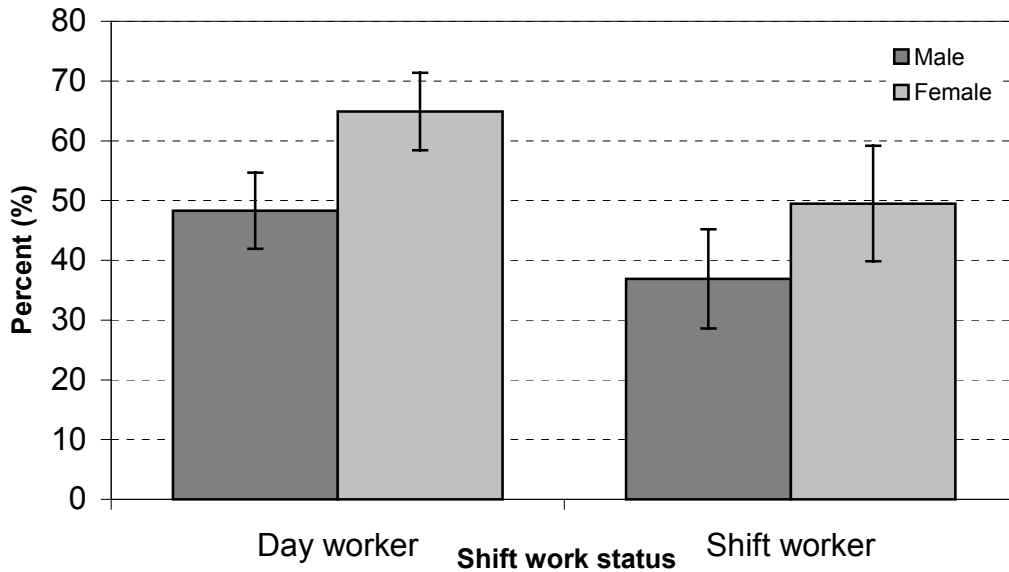
As discussed above, the Smoke Free Workplaces By-Law has been in effect in London since July 1, 2003 and a similar by-law has been in effect in Middlesex County since August 1, 2003. Although approximately 20% of London and Middlesex workers smoke on a daily basis, Figure 5.2 shows that approximately 99% of workers responding to the Rapid Risk Factor Surveillance Survey in 2001-2002 said they felt that smoking should either not be allowed at all in the workplace, or allowed only in certain areas. Only about 1% of workers favoured allowing workers to smoke freely in the workplace. Figure 5.3 shows that older workers were more likely than younger workers to favour a total ban, reflecting the higher daily smoking rate among younger compared to older workers (see Figure 3.2).

Figure 5.1: Self-perceived High Work Stress by Gender
Full Time Workers Aged 18-64
 Middlesex-London Health Unit, 2000- 2001



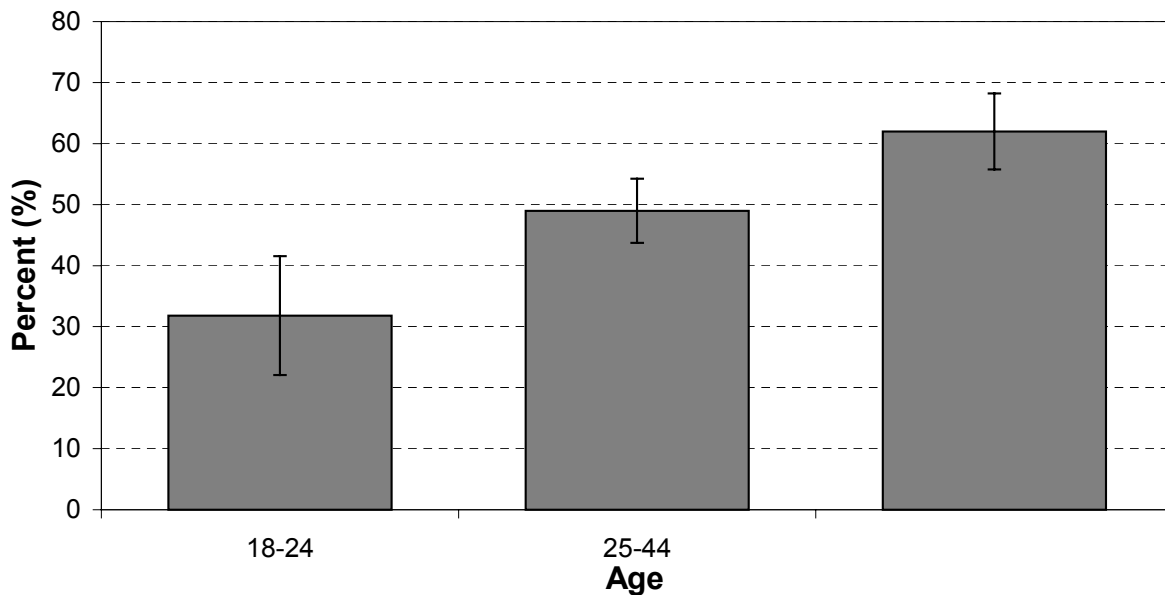
Source: Canadian Community Health Survey, 2000/2001.

Figure 5.2: Support for Total Smoking Ban in the Workplace by Shift Work Status and Gender, Workers Aged 18+ Middlesex-London Health Unit, 2001-2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

Figure 5.3: Support for Total Smoking Ban in the Workplace by Age Workers, Aged 18-64 Middlesex-London Health Unit, 2001-2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

Smoke in the Home

Although the Smoke Free Workplaces By-Law assures workers of a smoke free environment at work, non-smoking workers and workers who wish to quit smoking may still be exposed to second-hand smoke in their homes. In London and Middlesex, there are regular smokers in approximately 19% of workers' households. Figure 5.4 shows that approximately 60% ($59.9 \pm 2.8\%$) of homes of London and Middlesex workers are smoke-free. In an additional 20% ($20.6 \pm 2.3\%$), smoking is controlled in some manner.

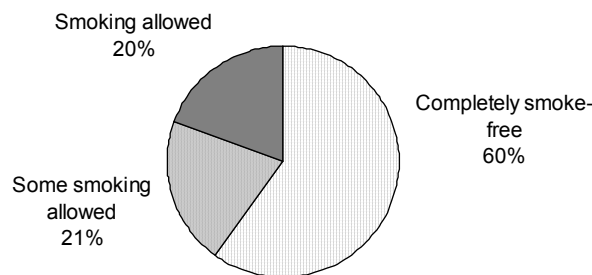
Methods

Data on work stress was drawn from the Canadian Community Health Survey 2000/01, conducted by Statistics Canada. Data on attitudes towards smoking in the workplace and smoking in the home were drawn from the Rapid Risk Factor Surveillance System (RRFSS), conducted for the Middlesex-London Health Unit by the Institute for Social Research, York University. Data from the Canadian Community Health Survey (CCHS) 2000/2001 were obtained from the share file of the Health Planning Branch, Ontario Ministry of

Health and Long Term Care. Bootstrapping techniques were employed to produce the coefficient of variation (CV) and 95% confidence intervals (CI's); data with CV's greater than 33.3% were excluded. Workers refer to fulltime workers, shift-workers to all but those working a "regular daytime schedule or shift". A fulltime worker is defined as someone who has had a job throughout the year with 30 or more hours per week and has also said yes to worked in the past twelve months.

RRFSS data were collected by telephone survey in a series of 21 monthly waves from January 2001 through September 2002. Households were selected randomly from all households with telephones in Middlesex-London, and respondents 18 years and older were systematically selected from within each household. The total sample size was 2120. Responses were weighted and non-responses were excluded from analysis, as were refusals and don't know responses if less than 5% of the valid cases. Differences in proportions were considered statistically significant at $p \leq 0.05$. All proportions calculated with RRFSS data are provided with 95% confidence intervals (See Appendix B).

**Figure 5.4: Household Smoke-free Status
Workers, Aged 18+**
Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

Definitions

Self-perceived work stress

Respondents who selected either “4” or “5” when asked the following question on the 2000/2001 Canadian Community Health Survey were considered to have high self-perceived work stress:

The next question is about your main job or business in the past 12 months. Would you say that most days at work were:

1. ... not at all stressful?
2. ... not very stressful?
3. ... a bit stressful?
4. ... quite a bit stressful?
5. ... extremely stressful?

Attitudes towards workplace smoke

With respect to workplace smoke, respondents to the RRFSS were asked whether they felt smoking in workplaces should be “not allowed”, permitted in an “enclosed, separately ventilated” area, permitted in a “smoking section”, or should simply be “allowed”.

Smoking in the home

Regarding smoke in the home, respondents to the RRFSS were asked: “Does anyone in this household smoke regularly INSIDE the home? (Yes/No)”, and “Which of the following best describes the rules or understandings about not smoking inside your home for VISITORS: would you say...not allowed at all, allowed sometimes, allowed in certain areas, allowed except when children present, or smokers do whatever they want.” From these two survey questions a third variable, household smoke-free status, was derived such that smoke-free homes do not have a regular smoker in the home and do not allow visitors to smoke at all, households with “smoking allowed” are those where “smokers do whatever they want.” Households with “some smoking allowed” constitute the remainder.

Preventative Services

Key Findings

- Among working women between the ages of 25 and 64, the provincial target of 95% of women having ever had a PAP test has been met.
- Approximately 70% of working women between 45 and 64 have had a mammogram, but only about half of women in this age group have had one in the last 2 years.
- The vast majority of the population, regardless of working status, report having had no difficulty accessing dental treatments in the past year.
- Older workers are more likely than younger workers to have had a flu shot.

Background

Health promotion messages typically focus on primary prevention, that is, preventing illness and injury through healthy lifestyle choices, avoiding risky behaviour or modifying environments to remove or reduce risks. But secondary prevention, that is, detecting disease and treating it before symptoms arise, can also be effective in reducing rates of serious illness and premature death. Mammograms to detect breast cancer and pap smears to detect cervical cancer are two examples of secondary prevention for women that have been shown to reduce death rates. Immunizations such as flu vaccines are a primary prevention strategy for adults as well as children. And although often overlooked as an important prevention strategy, dental check-ups and early treatment for caries and oral infections are also important to the overall health of working people and preventing lost time from work. Workplace Health Promotion Programs have a role to play in informing people of current guidelines concerning such prevention strategies and types of screening that are available, as well as informing people of immunization and dental services available in their communities.

An important preventive measure for women is screening mammography. The Canadian Task Force on Preventive Health Care (CTFPHC), a group that reviews the scientific evidence for preventive health measures, reports that sufficient evidence has accumulated to conclude that screening mammography reduces the death rate from breast cancer among women aged 50 to 69. The CTFPHC recommends screening by clinical examination and mammography for women in this age group.⁴⁵ Younger women have not been shown to benefit from this type of screening, however, and the CTFPHC

does not recommend this type of screening for women not at high risk between 40 and 49 years of age.⁴⁶

An objective set by the board of health within the *Mandatory Health Programs and Services Guidelines*¹ is:

- To increase to 70% the proportion of women ages 50 to 69 who receive screening mammography through the Ontario Breast Screening Program (OBSP) by the year 2010.

Another important preventive measure for women is a Pap smear. The Canadian Task Force on Preventive Health Care (CTFPHC) has also concluded that there is a fair level of evidence that screening for cervical cancer reduces the incidence of invasive cancer. The Pap (Papanicolaou) smear is recommended for all women if they are currently sexually active or ever have been.⁴⁷

Therefore, another objective with respect to screening set by the board of health within the *Mandatory Health Programs and Services Guidelines*¹ is:

- To increase the proportion of women screened according to the guidelines of the Ontario Cervical Screening Collaborative Group to 85% and to increase the proportion of ever-screened to 95% by the year 2010.

According to the Ontario Cervical Screening Collaborative Group guidelines, women at low risk should be screened every year if sexually active, and then every three years after two normal tests, until age 69. Women who may be at high risk of cervical cancer (for example, women with multiple sexual partners or those who may be infected by the human papillomavirus) may be advised to have Pap tests more often.⁴⁸

Influenza is a contagious disease of the respiratory system caused by a virus. While healthy adults usually recover within two to seven days, elderly people, especially those with chronic illnesses are at risk of developing more serious illness, sometimes requiring hospitalization.⁴⁹ Influenza can also increase the likelihood of death among these people. Workplaces are often hard-hit during an influenza epidemic because of the rapid spread of influenza among people in close proximity to each other. Not only is there lost productivity, but the cost of sick-leave may be excessively high during these times.⁵⁰

Influenza vaccines can be effective in preventing influenzas of the same viral strain as the vaccine, and each year vaccines are changed to provide protection against the form that is believed to be the most prevalent that year.⁴⁹

Influenza vaccines are now provided at no cost to all Ontario residents six months of age and older. Vaccinations are available from physicians' offices and at special times at the Middlesex-London Health Unit.

Dental health plays an important role in overall health status, but it may not be as likely to be considered when designing Workplace Health Promotion programs as other topics. Although preventable, serious dental problems can result in time off work and lowered productivity.⁵¹ Because most dental services are not covered under provincial health insurance plans, people may be without adequate insurance coverage and unable to afford the services of a dentist. According to the results of the 1996/1997 National Population Health Survey, approximately 60% of people in the workforce had some type of dental coverage through their workplace, while only 41% of people not in the workforce had dental coverage. Results of this survey also showed that people with low incomes and low education were less likely to visit a dentist even when they had dental insurance.⁵²

PAP Test

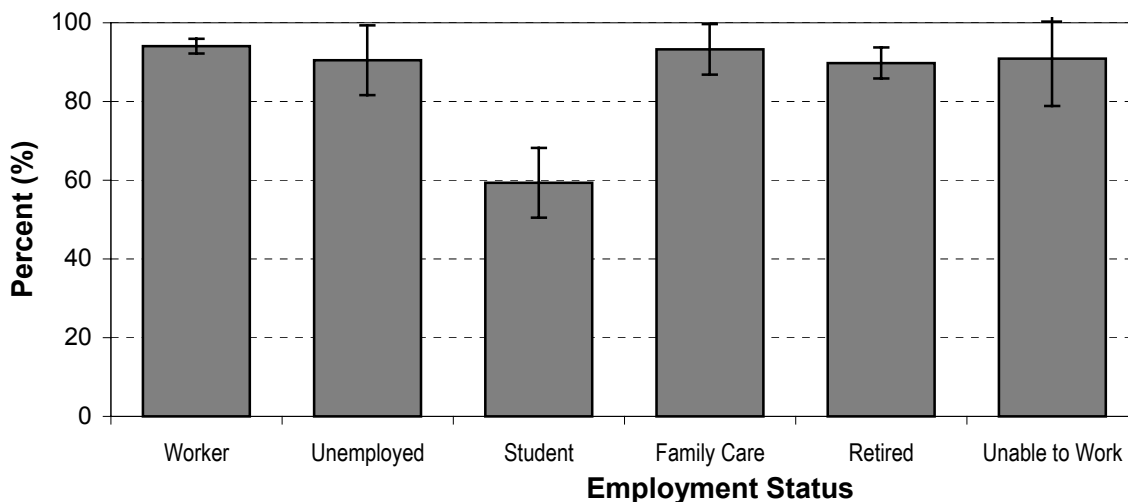
Of all employment status groups, working women are the most likely to have ever had a PAP test, as seen in Figure 6.1. In fact, working women have achieved one of the targets set under the *Mandatory Programs and Health Services Guidelines* with respect to screening for cervical cancer, that is, approximately 95% of working women (94.1 ± 1.9) report that they have had at least one PAP test. Moreover, the proportion of women in most employment status groups is close to the 95% target, with the exception of students. We found no differences in PAP test history between women who are day-workers and those who are shift-workers.

Younger women, however, are less likely to have ever had a PAP test than women in the two older age groups. Because over 85% of working women between 25 and 44 have had a PAP test within the previous two years, this group may have met the second cervical cancer screening target under the *Mandatory Programs and Health Services Guidelines*, that is, that 85% of women have been screened according to the guidelines of the Ontario Cervical Cancer Screening Collaborative Group.

Lower rates of screening for cervical cancer among younger working women and students may indicate a need for improvement. For women who are not sexually active, however, screening is unnecessary.

**Figure 6.1: Ever Had a PAP Test by Employment Status
Women Aged 18+**

Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

**Figure 6.2: Has Had a PAP Test by Age Group
Working Women Aged 18-64**



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

Mammogram

Mammograms are recommended for women between the ages of 50 and 69. Figure 6.3 shows that about 70% of working women between the ages of 45 and 64 have had a mammogram at some time, although only somewhat over half of these women have had a mammogram within the past 2 years. Some women in this age group, however, are younger than the age at which it is recommended under the Ontario Breast Screening Program that screening mammography begin. Moreover, nearly one in three women younger than 45 has had a mammogram, although this type of screening has not been shown to be of benefit to this group in reducing breast cancer mortality. Women in the younger age group who have had a mammogram may have done so because of a possible problem rather than as routine screening.

Similar to our findings with respect to screening for cervical cancer, we found no significant variation in mammogram history by shift status (data not shown).

Dental Visits

Overall, about 60% of adults in London and Middlesex rate their oral health as excellent or very good. As shown in Figure 6.4, self-rated oral health varies somewhat by employment status, with workers and students being the most likely to rate their dental health in the highest category.

Just under 5% of London and Middlesex residents overall said they had trouble accessing dental health treatment in the past year, approximately equal for people in the workforce and those not in the workforce. Among workers, no differences in access to dental treatments were noted on the basis of shift status, gender or age. Among the small proportion of workers who did have difficulty accessing dental treatment in the past year, cost of treatment was the main reason given for not accessing dental care.

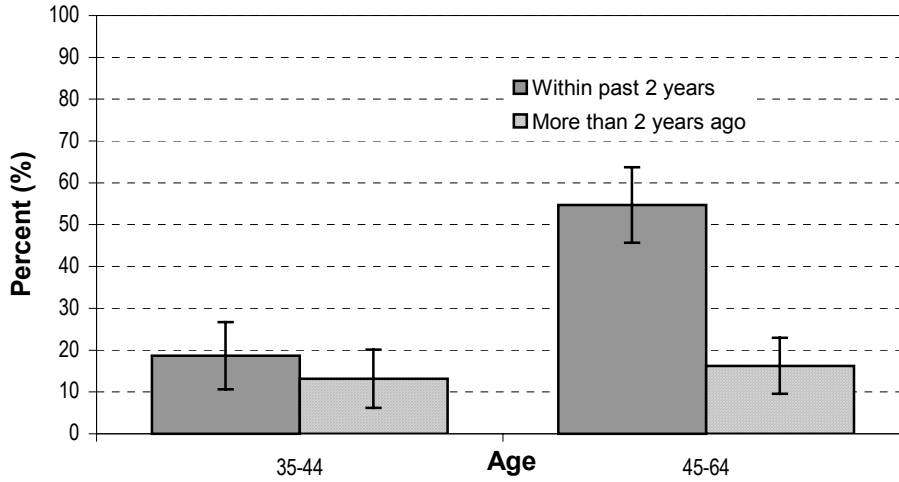
Flu Shots

According to Figure 6.5, people in the highest risk categories, retired people and those unable to work, were the most likely groups to have had flu shots in London and Middlesex. Coverage for workers and students was significantly less, at somewhat under 40% among workers, and under 20% among students.

We found no difference between the proportion of day-workers and shift-workers who received flu vaccination. Coverage increased significantly with age, however, with workers aged 45 to 64 having been more likely than workers aged 18 to 24 to have been vaccinated against the flu.

**Figure 6.3: Has Ever had a Mammogram by Age
Working Women Aged 35-64**

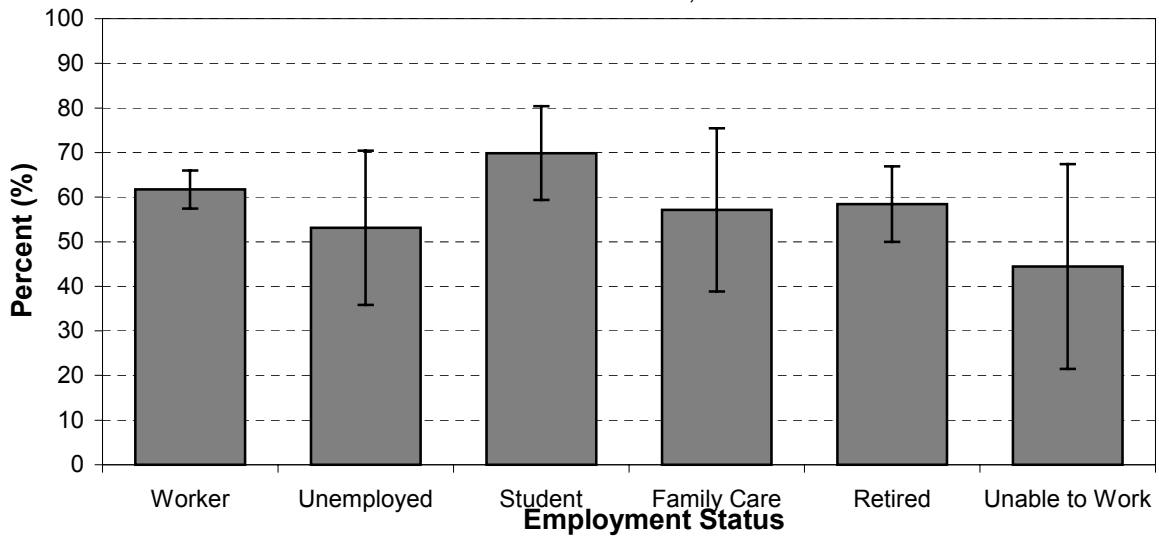
Middlesex-London Health Unit, 2001-2002



Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002.

**Figure 6.4: Excellent/Very Good Self-Rated Oral Health by
Employment Status Aged 18+**

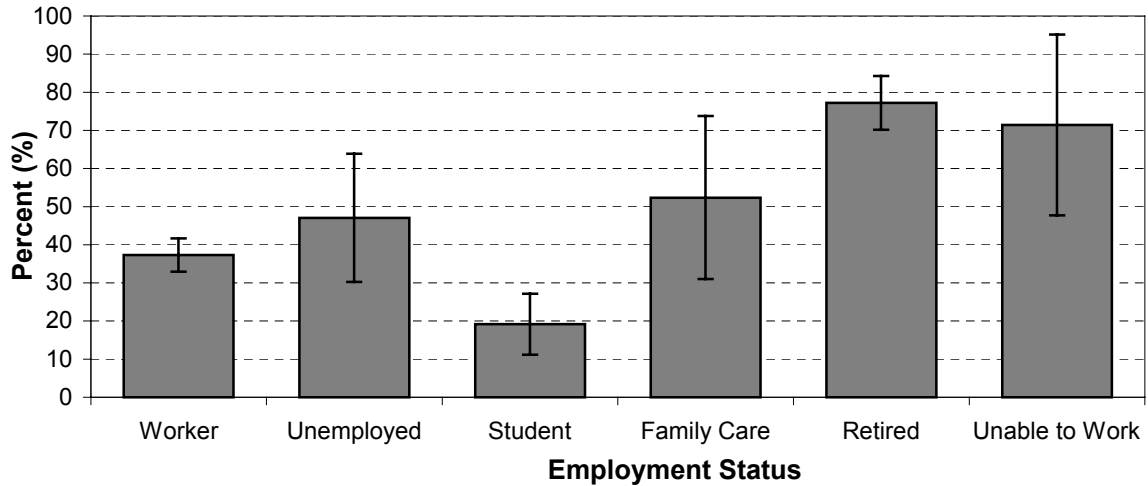
Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, May - December 2001.

**Figure 6.5: Had Flu Shot by Employment Status
Aged 18+**

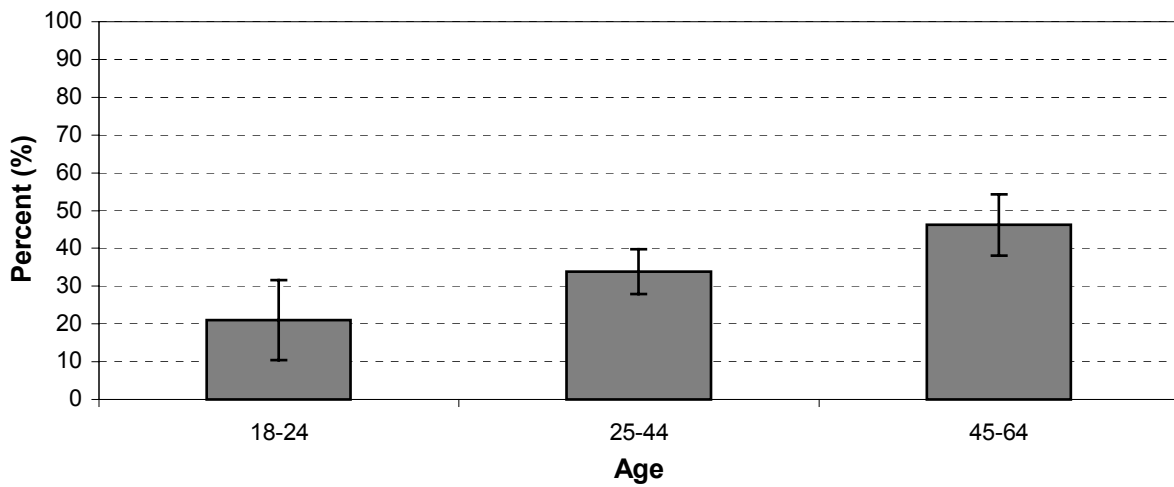
Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January - April 2001, January - April 2002.

**Figure 6.6: Had Flu Shot by Age
Workers Aged 18-64**

Middlesex-London Health Unit, 2001 - 2002



Source: Rapid Risk Factor Surveillance System, January - April 2001, January - April 2002.

Methods

Data were drawn from the Rapid Risk Factor Surveillance System (RRFSS), conducted for the Middlesex-London Health Unit by the Institute for Social Research, York University.

RRFSS data were collected by telephone survey in a series of 21 monthly waves from January 2001 through September 2002. Households were selected randomly from all households with telephones in Middlesex-London, and respondents 18 years and older were systematically selected from within each household. The total sample size was 2120. Responses were weighted and non-responses were excluded from analysis, as were refusals and don't know responses if less than 5% of the valid cases. Differences in proportions were considered statistically significant at $p \leq 0.05$. All proportions calculated with RRFSS data are provided with 95% confidence intervals (See Appendix B).

Definitions

PAP tests

Data on PAP tests were asked directly through three questions: "Now some questions about women's health. Have you ever had a Pap smear test? (Yes/No)", "Did you have your last Pap smear test within the last two years? (Yes/No).

Mammograms

Four direct questions were asked of women respondents aged 35 and over regarding mammograms: "Have you ever had a mammogram, that is, a breast x-ray? (Yes/No)", "Did you have your last mammogram within the last two years? (Yes/No)", "Can you tell me how many years ago you last had a mammogram?" and "For which one of the following three reasons did you have your last mammogram: would you say it was for...(regular check up/routine visit; ongoing/past problem; concern about a possible problem).

Dental health

Data on dental health came from RRFSS waves 5 through 12 only, i.e., months May through December 2001. Three questions were analyzed: "In the past 12 months have you had difficulty getting dental treatment? (Yes/No)", "The most recent time you had difficulty getting dental treatment was it because: (not get/find dentist; dentist's office long distance from home; not able to afford to pay for treatment; having to wait too long for appointment; other reasons)", and "In general, would you say the health of your mouth including your teeth and gums is

excellent, very good, good, fair or poor?" In the analysis of difficulties accessing dental treatments, responses to the second question were modified as follows: "not able to afford to pay for treatment" was labeled "cost", and "not get/find dentist", "dentist's office long distance from home" and "having to wait too long for appointment" were combined and labeled "availability".

Flu vaccinations

Data on flu vaccinations came from RRFSS waves 1 to 4 and 13 to 16, i.e., January to April, 2001 and 2002. Two direct questions were asked and analyzed: "Since [September 2001/September 2002], have you had a flu shot? (Yes/No)" and "[Had flu shot] In what month was that?"

Conclusion

Although there is still much to be learned, this compilation of information from existing sources has increased our knowledge about workplaces and workers in London and Middlesex.

A typical full-time worker spends close to 1/3 of his or her waking hours at work, making the workplace an ideal location for health promotion activities. The findings reported in the Worker Health Status Report show that many workers are at risk of chronic disease because of their lifestyle behaviours. Continued workplace health promotion activities targeted at smoking cessation, weight reduction and increasing physical activity are needed. Moreover, the finding that one in three workers is experiencing high levels of stress in the workplace supports the further development and delivery of programs to manage and reduce workplace stress.

This report also demonstrates that information sources available to public health units can provide useful background information about workers and their health, information that can then be used for program planning. A further implication of this report is the need for site-specific surveys to learn more about the health promotion needs of particular groups of workers.

Overall, the workplace is an important venue for reaching not only adult workers but the families of workers as well. Workplace health promotion efforts can pay dividends not only through improved employee health but also improved morale, which in turn results in enhanced productivity and organizational commitment.

Appendix A - Mandatory Programs and Health Services Guidelines Workplace Health Promotion Activity Requirements

Under the *Mandatory Programs and Health Services Guidelines*, requirements have been set out for boards of health as strategies to reduce mortality and morbidity from preventable chronic diseases and injury. The following requirements specify that health promotion activities take place in the workplace.

1. The board of health shall work with workplace personnel and local trade and business associations to improve awareness, skills development and the work environment to reduce the risk of chronic disease. Topics must include (one or more):
 - Tobacco-free living
 - Healthy eating
 - Healthy weights
 - Regular physical activity
2. The board of health shall work with workplace personnel and local trade and business associations to develop and implement guidelines that will reduce the risk of chronic diseases. This shall include as a minimum:
 - Promote the need for smoke-free workplaces, healthy eating guidelines and higher levels of regular physical activity in the workplaces through the use of the Internet and mass media;
 - Provide consultation and assistance to establish smoke-free workplaces including provision of smoking cessation material and programs either directly or by linking with available and appropriate community cessation programs;
 - Provide consultation and assistance to support higher levels of regular physical activity by increasing employees' access to physical activity opportunities (e.g., on-site showers, locker rooms/equipment, incentives for community fitness club memberships, bicycle racks, walking clubs).
3. The board of health shall work with workplace personnel and local trade and business associations to improve awareness, skills development and the work environment to prevent alcohol and other substance abuse. At a minimum:
 - Provide consultation, assistance and health promotion resources to workplaces
 - Promote and provide a 2-hour educational event once a year to occupational practitioners and others who may influence employee health

In addition to public health requirements to offer health promotion activities in workplaces to prevent chronic disease and injury, the workplace is also recognized as a site to support healthy pregnancies. An additional requirement under the *Mandatory Health Programs and Services Guidelines* is:

4. The board of health shall assist workplaces and workplace personnel in supporting healthy pregnancies. This shall include as a minimum:
 - Prepare information on risk factors related to reproductive health and distribute annually to management and employee groups. Content shall include information regarding the following:
 - a) The impact of type and hours of work
 - b) Established chemical, physical and biological hazards; and
 - c) Workplace programs and policies demonstrated to have a positive impact on reproductive outcomes; and
 - Assist in the development and implementation of workplace programs and policies to promote and protect the health of pregnant workers. Assistance shall include:
 - a) Offer presentations to employers every six months; and
 - b) Provide ongoing advice and consultation to employers, as requested.

Appendix B - Tables for Figures

Figure 1.3: Location of Workplace, London and Middlesex Workers, Aged 15+, 2001

Place of Work	London		Middlesex		Total	
	Count	%	Count	%	Count	%
Home	9735	5.9	5375	15.2	15110	7.5
No Fixed Job Site	14155	8.5	3305	9.3	17460	8.7
Fixed Work Address	142245	85.6	26685	75.5	168930	83.8
Total Employed Labour Force	166135	100.0	35365	100.0	201500	100.0

Source: Statistics Canada, 2001 Census

Figure 1.4: Mode of Transportation to Work, London and Middlesex Workers, Aged 15+, 2001

Transportation	London		Middlesex		Total	
	Count	%	Count	%	Count	%
Drives Motor Vehicle ¹	118425	81.8	26275	18.2	144700	77.6
Passenger in Motor Vehicle ¹	12320	86.2	1980	13.8	14300	7.7
Public Transit	11845	99.2	90	0.8	11935	6.4
Walk or Bicycle	12330	89.4	1465	10.6	13795	7.4
Other	1485	89.5	175	10.5	1660	0.9
Total	156405	83.9	29990	16.1	186395	100.0

Source: Statistics Canada, 2001 Census

Figure 2.1: Labour Force Participation and Unemployment Rates, London, Middlesex County, Ontario Population Aged 15 and Over, 1996 and 2001

Labour Force Participation	1996			2001		
	London	Middlesex*	Ontario	London	Middlesex*	Ontario
Total population 15 years and over by labour force activity (20% sample data)	255920	48115	8,429,210	268720	50925	9,048,040
In the labour force	171065	34480	5,586,975	179510	36960	6,086,815
Employed	154560	32615	5,077,670	166915	35470	5,713,900
Unemployed	16505	1870	509,305	12600	1480	372,915
Not in the labour force	84855	13630	2,842,235	89210	13965	2,961,225
Participation rate	66.8	71.7	66.3	66.8	72.6	67.3
Employment-population ratio	60.4	67.8	60.2	62.1	69.7	63.2
Unemployment rate	9.6	5.4	9.1	7.0	4.0	6.1

*Calculated from Census data: Middlesex County not including London City

Source: Statistics Canada, 1996 Census, 2001 Census

Figure 2.2: Labour Force Participation by Age Group, London, Middlesex County, and Ontario , 2001

Age Group	London				Middlesex*				Ontario			
	Total	In the labor force	Part rate	95% CI	Total	In the labor force	Part rate	95% CI	Total	In the labor force	Part rate	95% CI
15-19 years	22575	12145	53.8	0.7	5020	2985	59.5	1.4	765880	403745	52.7	0.1
20-24 years	25735	21180	82.3	0.5	3465	3070	88.6	1.1	713800	578435	81.0	0.1
25-44 years	102205	87400	85.5	0.2	18220	16585	91.0	0.4	3499950	3025130	86.4	0.0
45-64 years	76670	55480	72.4	0.3	16440	13020	79.2	0.6	2684705	1951210	72.7	0.1
65 years and over	41540	3305	8	0.3	7775	1295	16.7	0.8	1383705	128285	9.3	0.0

*Calculated from Census data: Middlesex County not including London City (3539036)

Source: Statistics Canada, 2001 Census

Figure 2.3 Employment Status by Gender, Age 18+, Middlesex-London Health Unit, 2001 – 2002

Employment Status	Male			Female			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
Worker	697	53.1	2.7	615	46.9	2.7	1312
Unemployed	37	46.3	10.9	43	53.8	10.9	80
Student	88	42.3	6.7	120	57.7	6.7	208
Family Care	3	4.8	5.3	60	95.2	5.3	63
Retired*	141	37.6	4.9	234	62.4	4.9	375
Unable to Work	24	52.2	14.4	22	47.8	14.4	46
Total	990	47.5	2.1	1094	52.5	2.1	2084

Source: Rapid Risk Factor Surveillance System, January 2001 – September 2002

Figure 2.4 Workforce by Occupation and Gender, London and Middlesex, Age 15+, 2001

Occupation	Male		Female		Total	
	Count	%	Count	%	Count	% of all occupations
Management	13200	62.5	7905	37.5	21105	9.9
Business, Finance, Administrative	10075	26.9	27400	73.1	37475	17.6
Natural, Applied Sciences & Related	8685	74.2	3025	25.8	11710	5.5
Health	3190	22.6	10930	77.4	14120	6.6
Social Science, Education, Government, Religion	6445	34.4	12275	65.6	18720	8.8
Art, Culture, Recreation, Sport	2305	43.5	2995	56.5	5300	2.5
Sales and Service	22075	42.8	29455	57.2	51530	24.2
Trades, Transport, Equipment Operators & Related	28730	93.2	2095	6.8	30825	14.5
Primary Industry	4825	73.7	1720	26.3	6545	3.1
Processing, Manufacturing & Utilities	11050	71.5	4395	28.5	15445	7.3
Total Experienced Labour Force	110580	52.0	102195	48.0	212775	100.0

Source: Statistics Canada, 2001 Census

Figure 2.5: Highest Level of Education, Workers, Age 15+, London and Middlesex (compared to Ontario), 2001

Highest Level of Education	Middlesex (incl. London)		Ontario	
	Count	%	Count	%
Less than high school*	36260	17.9	1,110,085	19.4
High school certificate	31380	15.5	860,475	15.1
Some post secondary**	36375	18.0	1,024,665	17.9
Post secondary graduate**	98375	48.6	2,718,665	47.6

*Less than grade 9 + grades 9-13 without high school graduation certificate
 ** Includes Trade school, college and university

Source: Statistics Canada, 2001 Census

Figure 2.6 Shift Status by Gender, Age 18+, London Middlesex Health Unit 2001-2002

Shift Status	Male			Female			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
Day Worker	423	62.0	3.64	413	68.8	3.71	836
Shift Worker	259	38.0	3.64	187	31.2	3.71	446
Total	682			600			1282

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 3.1 Daily Smoking Rate by Employment Status, Age 18+, Middlesex-London Health Unit, 2001-2002

Employment Status	Weighted Count	%	95% CI	Total
Worker	260	19.8	2.2	1311
Unemployed	21	27.3	9.9	77
Student	36	17.2	5.1	209
Family Care	10	15.6	8.9	64
Retired	37	10	3.1	369
Unable to Work	21	45.7	14.4	46

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 3.2: Smoking Status by Age Group, Workers Aged 18 to 64, Middlesex-London Health Unit, 2001-2002

Age Group	Daily			Occasionally			Former			Never		
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI
18-24	44	26.8	6.8	12	7.3	4	11	6.7	3.8	97	59.1	7.5
25-44	136	21	3.1	42	6.5	1.9	160	24.7	3.3	310	47.8	3.8
45-64	69	15.3	3.3	15	3.3	1.7	170	37.6	4.5	198	43.8	4.6

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 3.3: Daily Smoking by Gender and Shift Status, Workers, Aged 18+, Middlesex-London Health Unit, 2001-2002

Shift Status	Male				Female			
	Weighted Count	%	95% CI	Total	Weighted Count	%	95% CI	Total
Day Worker	87	20.6	3.9	423	67	16.3	3.6	412
Shift Worker	57	22.0	5.0	259	34	18.4	5.6	185

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 3.4: Readiness to Quit Smoking by Gender, Workers 18 +, Middlesex-London Health Unit, 2001-2002

Gender	Not Thinking of Quitting			Considering Quitting (w/in next 6 months)			Committed to Quitting (w/in 30 days)			Going to Quit Someday		
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI
Male	38	22.2	6.2	84	49.1	7.5	31	18.1	5.8	18	10.5	4.6
Female	29	21.0	6.8	76	55.1	8.3	25	18.1	6.4	8	5.8	3.9

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 3.5: Alcohol Used in the Past Year by Employment Status, Age 18+, Middlesex-London Health Unit, 2001-2002

Employment Status	Yes			No			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
Worker	1147	90.3	1.6	123	9.7	1.6	1270
Unemployed	75	90.4	6.3	8	9.6	6.3	83
Student	146	89.6	4.7	17	10.4	4.7	163
Family Care	40	66.7	11.9	20	33.3	11.9	60
Retired	345	76.2	3.9	108	23.8	3.9	453
Unable to Work	31	59.6	13.3	21	40.4	13.3	52
Total	1784	85.7	1.5	297	14.3	1.5	2081

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 3.6: Adherence to Gender-Specific Low Risk Drinking Guidelines by Employment Status, Males, Age 18+

Employment Status	Yes			No			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
Worker	593	93.5	1.9	41	6.5	1.9	634
Unemployed	28	82.4	12.8	6	17.6	12.8	34
Student	70	82.4	8.1	15	17.6	8.1	85
Retired	110	95.7	3.7	5	4.3	3.7	115

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 3.7: Physically Active by Age, Full Time Workers Aged 18 to 64, Middlesex-London Health Unit, 2000 - 2001

Age Group	All fulltime workers		Fulltime shift workers		Fulltime day-workers	
	%	95% CI	%	95% CI	%	95% CI
18-24	46.74*	22.36*	**	**	51.03*	25.07*
25-44	26.07	6.2	29.42*	9.62*	24.53	7.74
45-64	14.73*	5.77*	20.22*	11.37*	11.78*	5.99*

*Released with caution

**Estimate cannot be released

Source: Statistics Canada, 2000/01 Canadian Community Health Survey

Figure 3.8: Physically Active by Gender, Full Time Workers Aged 18 to 64, Middlesex-London Health Unit, 2000 - 2001

Gender	All fulltime workers		Fulltime shift workers		Fulltime day-workers	
	%	95% CI	%	95% CI	%	95% CI
Males	27.66*	6.34*	32.78	12.64	25.11*	8.32*
Females	18.76	5.83	19.84*	10.1*	18.21	7.75

*Released with caution

Source: Statistics Canada, 2000/01 Canadian Community Health Survey

Figure 4.1: Self-Rated Health Status by Employment Status, Age 18+, Middlesex-London Health Unit, 2001 - 2002

Employment Status	Excellent/Very Good			Good			Fair/Poor			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
Worker	893	68.1	2.5	343	26.1	2.4	76	5.8	1.3	1312
Unemployed	42	52.5	10.9	23	28.8	9.9	15	18.8	8.6	80
Student	132	63.5	6.5	64	30.8	6.3	12	5.8	3.2	208
Family Care	34	54.0	12.3	24	38.1	12.0	5	7.9	6.7	63
Retired	173	47.0	5.1	111	30.2	4.7	84	22.8	4.3	368
Unable to Work	8	17.0	10.7	12	25.5	12.5	27	57.4	14.1	47
Total	1282	61.7	2.1	577	27.8	1.9	219	10.5	1.3	2078

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 4.2: Chronic Disease by Employment Status, Age 18+, Middlesex-London Health Unit, 2001-2002

Employment Status	Yes			No			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
Worker	303	23.3	2.3	1000	76.7	2.3	1303
Unemployed	27	33.8	10.4	53	66.3	10.4	80
Student	34	16.5	5.1	172	83.5	5.1	206
Family Care	22	35.5	11.9	40	64.5	11.9	62
Retired	232	62.7	4.9	138	37.3	4.9	370
Unable to Work	31	67.4	13.5	15	32.6	13.5	46
Total	649	31.4	2.0	1418	68.6	2.0	2067

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 4.3: Chronic Disease by Age, Workers Aged 18 - 64, Middlesex-London Health Unit, 2001-2002

Age Group	Yes			No			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
18-24	32	19.5	6.1	132	80.5	6.1	164
25-44	104	16.0	2.8	545	84.0	2.8	649
45-64	147	32.9	4.4	300	67.1	4.4	447

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 4.5 Weight Status by Age, Workers Ages 20 - 64, Middlesex London Health Unit, 2001-2002

Age Group	Underweight			Healthy			Overweight			Obese			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
20-24	7	5.2	3.7	93	68.9	7.8	28	20.7	6.8	7	5.2	3.7	135
25-44	17	2.8	1.3	290	47.0	3.9	218	35.3	3.8	92	14.9	2.8	617
45-64	*			160	38.3	4.7	194	46.4	4.8	62	14.8	3.4	418

*Number suppressed (<5)

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 4.6: Falls by Work Status by Age, Workers Aged 18 - 64, Middlesex-London Health Unit, 2001-2002

Age Group	Serious Fall			Minor Fall			No Fall			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
18-24	17	10.3	3.4	38	23.0	4.7	110	66.7	5.2	313
25-44	54	8.3	1.5	88	13.6	1.9	507	78.1	2.3	1244
45-64	31	6.9	1.7	52	11.6	2.1	367	81.6	2.6	869

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 5.1: Self-perceived High Work Stress by Gender, Full Time Workers Aged 18 to 64, Middlesex-London Health Unit, 2000 - 2001

	Males			Females		
	%	Low CI	High CI	%	Low CI	High CI
MLHU	34	28.2	40.3	44	35.3	52.5

*Released with caution

Source: Statistics Canada, 2000/01 Canadian Community Health Survey

Figure 5.2: Support Total Smoking Ban in the Workplace by Gender and Shift Work Status, Workers Aged 18+, Middlesex-London Health Unit, 2001-2002

Gender	Shift Status	Weighted Count	%	95% CI	Total
Male	Day Worker	114	48.3	6.4	236
	Shift Worker	48	36.9	8.3	130
	Total	162	44.3	5.1	366
Female	Day Worker	135	64.9	6.5	208
	Shift Worker	51	49.5	9.7	103
	Total	186	59.8	5.4	311

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 5.3: Support Total Smoking Ban in the Workplace by Age, Workers, Aged 18 - 64, Middlesex-London Health Unit, 2001-2002

Age Group	Workers		
	Weighted Count	%	95% CI
18-24	28	31.8	9.7
25-44	170	49.0	5.3
45-64	145	62.0	6.2

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 5.4: Household Smoke-free Status, Workers, Aged 18+, Middlesex-London Health Unit, 2001-2002

Completely Smoke-Free			Some Smoking Allowed			Smoking Allowed			Total
Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
711	59.9	2.8	244	20.6	2.3	231	19.5	2.3	1186

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 6.1: Ever Had Pap Smear by Employment Status (Women only)

Employment Status	Screening PAP			PAP for Other Reasons			Never		
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI
Worker	521	85.6	2.8	52	8.5	2.2	36	5.9	1.9
Unemployed	32	76.2	12.9	6	14.3	10.6	4	9.5	8.9
Student	66	55.9	9.0	4	3.4	3.3	48	40.7	8.9
Family Care	49	83.1	9.6	6	10.2	7.7	4	6.8	6.4
Retired	176	78.2	5.4	26	11.6	4.2	23	10.2	4.0
Unable to Work	17	77.3	17.5	3	13.6	14.3	2	9.1	12.0

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 6.2: Has Had a PAP Test by Age Group, Women Aged 18+, Middlesex-London Health Unit, 2001-2002

Employment Status	PAP test within 2 years			Ever had a PAP test			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
Workers	59	76.1	9.5	63	80.8	8.7	78
18-24	93	31.9	5.3	277	94.9	2.5	292
25-44	90	41.0	6.5	214	97.7	2.0	219
45-64							

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 6.3: Has Ever Had a Mammogram by Age, Working Women Aged 18 - 64, Middlesex-London Health Unit, 2001-2002

Age Group	≤ 2 yrs.			> 2 yrs.			Never		
	Weighted Count	< 2 yrs.	95% CI	Weighted Count	%	95% CI	Weighted Count	%	95% CI
35-44	17	18.7	8.0	12	13.2	7.0	62	68.1	9.6
45-64	64	54.7	9.0	19	16.2	6.7	34	29.1	8.2

Source: Rapid Risk Factor Surveillance System, January 2001 - September 2002

Figure 6.4: Excellent or Very Good Self-rated Oral Health by Employment Status, Aged 18+, Middlesex-London Health Unit, 2001-2002

Employment Status	Excellent/V. Good		
	Weighted Count	%	95% CI
Worker	311	61.7	4.2
Unemployed	17	53.1	17.3
Student	51	69.9	10.5
Family Care	16	57.1	18.3
Retired	76	58.5	8.5
Unable to Work	8	44.4	23.0
Total	479	61.0	3.4

Source: Rapid Risk Factor Surveillance System, May 2001 - December 2001

Figure 6.5: Had Flu Shot by Employment Status, Aged 18+, Middlesex-London Health Unit, 2001-2002

Employment Status	Yes			No			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
Worker	175	37.3	4.4	294	62.7	4.4	469
Unemployed	16	47.1	16.8	18	52.9	16.8	34
Student	18	19.1	8.0	76	80.9	8.0	94
Family Care	11	52.4	21.4	10	47.6	21.4	21
Retired	105	77.2	7.1	31	22.8	7.1	136
Unable to Work	10	71.4	23.7	4	28.6	23.7	14
Total	335	43.6	3.5	433	56.4	3.5	768

Source: Rapid Risk Factor Surveillance System, January - April 2001, January - April 2002

Figure 6.6: Had Flu Shot by Age, Workers Aged 18 - 64, Middlesex-London Health Unit, 2001-2002

Age Group	Yes			No			Total
	Weighted Count	%	95% CI	Weighted Count	%	95% CI	
18-24	12	21.1	10.6	45	78.9	10.6	57
25-44	84	33.9	5.9	164	66.1	5.9	248
45-64	67	46.2	8.1	78	53.8	8.1	145

Source: Rapid Risk Factor Surveillance System, January - April 2001, January - April 2002

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