THE QUALITY OF CANCER SERVICES FOR WOMEN IN ONTARIO

SUMMARY REPORT

AN INITIATIVE
OF THE ONTARIO WOMEN’S HEALTH COUNCIL
IN PARTNERSHIP
WITH CANCER CARE ONTARIO
AND THE CANCER QUALITY COUNCIL OF ONTARIO

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ABOUT THE REPORT

This report is a joint initiative of the Ontario Women's Health Council, Cancer Care Ontario and the Cancer Quality Council of Ontario.

The **Ontario Women’s Health Council** (OWHC) was established in 1998 by the Minister of Health and Long-Term Care. The mandate of the Council is to advise the Minister of Health and Long-Term Care and key stakeholders on health issues affecting women, advocate for improvements in women’s health in Ontario, promote women’s health research, identify gaps and disseminate information on current research activities, and communicate its activities broadly to women throughout Ontario. Chaired by Jane Pepino, the OWHC is composed of members who provide a broad range of expertise in the areas of treatment, research, public and community health, and corporate and consumer issues relating to women.

**Cancer Care Ontario** (CCO) is the Ontario government’s primary adviser on all aspects of the provincial cancer system. The mandate of CCO is to provide strategic direction and priorities for the cancer system, develop standards and guidelines to support quality cancer care, monitor cancer system performance, ensure timely and equitable access to care, ensure the effective use of resources, and report to the public on cancer system performance. CCO is accountable to the Minister of Health and Long-Term Care in exercising its mandate. The mission of CCO is to improve the performance of the cancer system by driving quality, accountability and innovation in all cancer-related services.

The **Cancer Quality Council of Ontario** (CQCO) was established in 2002 with a mandate to monitor and report publicly on cancer system performance, and to make recommendations for targeted quality improvement. A quasi-independent body, and the first of its kind in Canada, the CQCO reports to the Minister of Health and Long-Term Care via Cancer Care Ontario’s Board of Directors. The CQCO is chaired by Michael Decter and is composed of 14 experts in the fields of cancer medicine, research and policy. To fulfill its mandate, the CQCO collaborates with many partners throughout the province, including hospitals and other cancer service providers, the Institute for Clinical and Evaluative Sciences, the Canadian Institute for Health Information, the Program in Evidence-Based Care, and the Ontario Women’s Health Council.
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The report was funded by the Ontario Women’s Health Council (OWHC). The OWHC is
fully funded by the Ontario Ministry of Health and Long-Term Care. This report does not
necessarily reflect endorsement by the Ministry of Health and Long-Term Care.
In 2005, Cancer Care Ontario (CCO) and the Cancer Quality Council of Ontario (CQCO) published the first Cancer Service Quality Index (CSQI). The CSQI is a tool used to monitor the quality of Ontario’s cancer system. Using 25 indicators of quality, the CSQI tracks the cancer system’s ability to:

1. Improve the measurement, collection and reporting of cancer system performance data
2. Increase the use of evidence and innovation in decision making
3. Increase access to cancer services and reduce waiting times
4. Improve the efficiency of cancer service delivery
5. Improve the outcomes of cancer care

Implicit in the goals of the CSQI is the notion of equity. No matter where patients live in the province, no matter their sex, age, ethnicity or socioeconomic status, the goal is to ensure high quality care, delivered equitably. Performance measurement can reveal inequities which the health care system can develop interventions to reduce or eliminate.1

In its first annual reporting cycle, the CSQI focused on geographic variation as one dimension of equity. The aim of this report is to examine another important dimension of equity: sex/gender. Women make up half of Ontario’s workforce. They continue to have a greater share of family responsibilities (including childcare) than men, and they are more likely than men to live in poverty.2 Because men and women differ in cancer risk and prognosis, as well as their physical, psychological, and social experiences with cancer, the Ontario Women’s Health Council, Cancer Care Ontario and the Cancer Quality Council of Ontario examined the value and feasibility of assessing care by patient sex and gender as part of the ongoing measurement of quality in Ontario’s cancer system.

EXECUTIVE SUMMARY

CSQI indicators were selected to assess five key aspects of quality service:

1. **Measurement.** Is our ability to measure the quality of cancer care improving?
2. **Access.** Are cancer services accessible and equitable across Ontario? Are waiting times for cancer services getting longer or shorter?
3. **Evidence.** Are we using the best practices when caring for patients?
4. **Outcomes.** What are Ontario’s cancer rates? How good are we at preventing cancer? Is the quality of cancer care improving? Are people who receive treatment for their cancer living longer? Are they satisfied with their care?
5. **Efficiency.** Are we using cancer resources efficiently?

After reviewing the literature on cancer care for women and on sex differences in health care quality, a gender analysis was conducted on the CSQI indicators (i.e., analyzing the indicators separately for men and women) to determine whether performance on these measures differs for men and women. While this report is focused on women and cancer, assessing differences in health care quality benefits both sexes: when disparities are detected for either women or men, then targeted sex and gender-based strategies can be implemented to reduce inequities. This paper is a companion document to the Cancer System Quality Index (CSQI) (http://www.cancercare.on.ca/qualityindex/).

This report sets out to answer five key questions:

1. What is Ontario’s current capacity to measure the quality of services received by women cancer patients?
2. How accessible is Ontario’s cancer care system for women?
3. To what extent are women cancer patients receiving care based on the latest available evidence?

4. To what extent are the outcomes of cancer care improving for women in Ontario?

5. What can we say about the efficiency of Ontario’s cancer services for women?

While we recognize that the data and measures presented here have limitations, this report is a first step in reporting this type of information. It also identifies a set of strategies that could improve cancer care for the women of Ontario.

**Key Findings**

**Measurement and Reporting**

- Data is available by sex and gender for many parts of the cancer system, so it is now possible to measure and report many of the quality indicators in the CQSI by sex and gender.

- CCO is working to improve the quality of cancer data in the province. However, there are significant gaps in data availability that limit what can be measured:

  Data for many indicators are not available for patients treated outside the cancer care system.

  It is not possible to assess the quality of care for subgroups of women who may – because of income, education, culture, language or other factors – be underserved.

  Cancer stage information – which is an important indicator of access problems, delayed care or suboptimal quality care – is only available for about one-third of cancer patients.

**Access to Care**

**Screening**

- Effective cancer screening tests for three major cancers (breast, colorectal, and cervical) are available to women, but not all women use them. About 60% of eligible women are being screened for breast cancer, 74% for cervical cancer and <20% for colorectal cancer. These screening rates are significantly below the provincial screening targets of 90%, 95% and 90% respectively.

- According to the literature, Canadian women who are under-screened or have never been screened for cervical cancer are more likely to have low socio-economic status, or be from Aboriginal or immigrant communities.

- Organized screening programs, such as the Ontario Breast Screening Program are an effective means of improving recruitment, follow-up and quality assurance in cancer screening.

**Treatment**

- There are no significant differences in the waiting times for cancer treatment experienced by men and women patients. Waiting times are too long for some patients for some services.

- For women with breast cancer, distance from a cancer centre may affect referrals for radiation treatment.

- Because of lack of data, it is not possible to determine whether there are sex differences in wait times among people receiving chemotherapy outside the regional cancer centres, or to determine whether other factors, such as age, ethnicity or socio-economic status, affect wait times for treatment.
Care at the End of Life
• Women with cancer appear to have somewhat better access to desirable end-of-life care than men; however, there is much room for improvement in palliative care for both men and women in Ontario.
• Women are less likely than men to die in hospital or to have an emergency room visit in the last two weeks of life.

Use of Evidence
• Based on a preliminary examination of the uptake of six different clinical practice guidelines for cancer care, patients treated with radiation therapy or systemic therapy (i.e., chemotherapy) at regional cancer centres receive high quality care overall. There appears to be no significant differences between the care received by men and women patients.
• Clinical trials provide the evidence about what works in cancer treatment. Although women outnumber men in the population and there are sex differences in drug metabolism, side-effects, and toxicity, historically women have not participated in clinical trials as frequently as men. There is no data on the number of women involved in clinical trials in Ontario, so we do not know their participation rates.

Health Outcomes
Prevention: Reducing Cancer Risk
Smoking
• Between 1990 and 2003, the proportion of Ontario women who smoke dropped from 30% to 20%, which indicates that Ontario's broad based prevention programs have had an impact.
• Smoking continues to be a particular risk for women in northern parts of the province and in Kingston, and for adolescent women, single parents (male and female) and women with lower incomes.

Obesity
• Between 1996 and 2003, the proportion of Ontario women who are obese increased from 10% to 14%. Obesity in women has increased in all parts of the province, particularly in the Thunder Bay and Windsor regions.
• For many women, time and economic constraints are a major barrier to being physically active; effective prevention programs must remove the barriers that keep women from eating properly and being more active.

Patient Centredness: Satisfaction and Pain Management
• Overall satisfaction with the cancer system is relatively high. Men are generally more satisfied than women with cancer services; however these differences are small.
• Women appear to be somewhat less satisfied with pain management than men.

Key Recommendations
Cancer Care Ontario, the MOHLTC, public health, and the Ministry of Health Promotion are involved in ongoing efforts aimed at reducing risk factors for cancer and improving access to and quality of care in the province.

To improve cancer care for women in the province, this report recommends these organizations consider four priority strategies:

A. Collecting and reporting data by sex can help assure the needs of women are addressed as an integral component of efforts to improve the Ontario cancer care system.
B. Women will benefit from targeted efforts to increase screening rates for breast, cervical, and colorectal cancers, with a special focus on reaching out to underserved women.

C. More emphasis on prevention and risk factor reduction can help reduce the burden of illness among women in the province.

D. Encouraging women to participate in clinical trials, and collecting and reporting sex-specific trial data can help build the evidence to improve cancer care for women.

3. Measurement and reporting of CQSI indicators for at risk subgroups of women is desirable. To ensure all Ontarians have equitable access to quality services, the province’s cancer system must understand more about the needs of different subgroups of the population and how different factors affect their ability to access and benefit from cancer services. Measuring and reporting this information will make it possible to identify and address any disparities.

Improve Cancer Screening

4. Ontario has an opportunity to improve cancer screening rates and reach provincial targets. Cancer Care Ontario should work closely with MOHLTC, LHINS, Ontario Health Quality Council, public health and the primary care system – particularly family health teams and community health centres – to:

   - Publicize the recommended screening tests, and encourage all eligible women and men to request regular cancer screening from their primary care providers
   - Educate providers and the public about the risks of cancer and the benefits of screening, focusing particularly on the risk of colorectal cancer in women
   - Identify and address any disparities in access to cancer screening based on factors such as gender, age, income, education, ethnicity, or body mass index
   - Develop targeted outreach programs for subgroups of women and men who are under-screened.

Improve Measurement and Reporting

1. When possible, cancer indicators should be reported by sex. Analyzing data based on sex allows the cancer system to ensure that both women and men receive equitable access to cancer services, and benefit equitably from cancer treatment. A gender analysis can be used to identify gender-specific risks or outcomes: information that can be used to develop more effective prevention programs, treatment services, and end-of-life care, improve quality and increase patient satisfaction.

2. To improve our ability to assess quality of care for all women, the MOHLTC and CCO should continue their efforts to improve data quality and availability. Ontario needs data to assess the quality of cancer care for women whether they are treated in the cancer care system or in their local community. To assess differences in system performance among subgroups of women, Ontario needs data on socio-demographic factors, such as income, education, ethnicity and immigrant status, as well as better clinical data, such as cancer stage.
Improve Prevention and Health Promotion

5. Targeted interventions to prevent smoking and obesity have the potential to reduce the burden of cancer. The Ministry of Health Promotion, Cancer Care Ontario, public health, and other partners in chronic disease prevention should continue to develop targeted smoking and obesity prevention campaigns and interventions that take into account the impact of factors, such as sex, age, socioeconomic status, and geography:

Smoking prevention and cessation programs targeted to women should focus particularly on adolescent girls and low income women.

Obesity prevention programs for women and men should:

- acknowledge systemic barriers to healthy body weight and physical activity
  - particularly for marginalized Canadians (e.g., the poor, Aboriginal people)
  - such as lack of transportation, lack of education, urban development, the lack of or cost of recreation programs and facilities, and the lack of availability and affordability of healthy foods
- encourage integrated approaches to behaviour change and supportive environments for women across the lifespan
- encourage and enable women to be physically active.

Improve the Use of Evidence

6. The Ontario Cancer Research Network should require all centres participating in clinical trials to collect and report data on the demographic characteristics of patients enrolled in the trials. This information can be used to improve recruitment to clinical trials and ensure that women as well as other population subgroups are adequately represented in trials conducted in the province.
BACKGROUND

SEX, GENDER, AND HEALTH

The biological and sociocultural differences between men and women effect patterns of health and illness. Some conditions, such as cervical and uterine cancers, are specific to women; however, even diseases that are not sex-specific can have a different incidence and prevalence in men than in women (i.e., they can be more or less common or occur at different ages or stages of life). The same disease may have different characteristics and clinical courses in men and women: women and men can display different symptoms for the same problem, have different risk factors for the same disease, react differently to the same medication, and experience different outcomes from the same condition.

SEX, GENDER, AND HEALTH CARE

Men and women may also differ in their interactions with the health care system, including their health care needs, use of services, and satisfaction with care. Moreover, the likelihood of receiving recommended treatments can also vary by patient sex. These differences have resulted in specially tailored health promotion or treatment programs, as well as the development of sex-specific clinical practice guidelines.

SEX, GENDER, AND CANCER

In recent years, new information has emerged about how men and women differ in their physical, psychological, and social experiences with cancer, including differences in disease risk, prognosis, and quality and outcomes of care. Women also have distinct needs as caregivers and survivors of cancer patients.

For example:

- Between the ages of 0 and 19 and over age 50, men have higher rates of cancer than women. During the reproductive years (ages 20 to 49), women have higher rates of cancer than men.

- Women may be more susceptible to the carcinogenic effects of tobacco than men. For example, women smokers may be more likely than men to develop adenocarcinoma of the lung and women who have never smoked are more likely than men to develop lung cancer. These differences may be due to a combination of hormonal, genetic and metabolic sex differences.

- Men and women can respond differently to cancer treatments: women with colorectal cancer treated with 5-fluorouracil may experience a higher toxicity grade, more severe toxicities, and a greater variety of side effects.
of types of toxicity than men, but women appear to have a higher probability of survival at five years after colorectal cancer surgery than men.

- More men than women die of cancer but, because women typically live longer than men and the women who die of cancer are relatively young, the potential years of life lost are higher for women than for men.
- Gender also influences psychosocial responses to cancer. In one study, a higher proportion of men with cancer reported somatization – physical manifestations of stress – while women patients in the same study reported higher rates of depression.

Against this backdrop of differences in cancer and cancer care associated with sex and gender, this report examines the quality of cancer services for both women and men in Ontario. This information can be used to guide ongoing efforts to improve the performance of cancer care services in the province.

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**Women and Cancer: The Facts**

**Incidence**
- 38% of Canadian women are likely to develop cancer in their lifetime, and 24% are likely to die from it.
- This year, an estimated 28,000 new cases of cancer in women and 12,000 deaths from cancer in women will occur in Ontario.
- Men have higher rates of cancer than women between the ages 0-19 and at age 50 and over. Among young adults (ages 20-49), rates of new cancer cases and deaths are somewhat higher among women than men.
- 20% of breast cancers are diagnosed in women under 50.
- The top three cancers in order among women are: breast, lung, and colorectal.
- Lung cancer rates are increasing among women, while colorectal cancer cases are decreasing.

**Mortality**
- Lung cancer is the leading cause of cancer death among both women and men.
- The mortality rate from breast cancer is at its lowest since 1950, while female lung cancer incidence and mortality rates have tripled since 1976.
- For all cancers combined, the number of deaths among men is higher than among women. However, the potential years of life lost from cancer is higher for women than for men because women typically live longer than men, and because deaths from some female cancers occur at younger ages.

**Risk factors**
- Among both men and women, the rates of smoking in Ontario have been falling in recent years, while the rate of obesity (a risk factor for some cancers) has been increasing.
- While the number of tobacco-attributed deaths peaked among Ontario men about 15 years ago and continues to decline, tobacco-attributed deaths among Ontario women are still on the rise.

**Cancer screening**
- Breast, cervical, and colorectal cancers are preventable (if caught early) through screening.

**Sources:** Canadian Cancer Statistics 2005; Cancer System Quality Index 2005; Cancer Care Ontario: Cancer Care Ontario (2002). Tobacco or Health in Ontario.
I. Do We Have the Data to Measure Quality of Cancer Care for Women?

The measurement and reporting of health performance information for quality improvement has become standard practice internationally. Although providing performance information to the public does not necessarily affect patients’ decisions, it does motivate managers and providers to improve quality – especially when performance scores are low. As their health performance measurement systems evolve, many jurisdictions are beginning to link financial incentives to quality improvement (i.e., paying for performance).

To ensure that quality improvement efforts reflect the varying needs of different types of patients, performance data should be stratified based on patient sex/gender and other demographic variables. Measures of health care quality specific to women have been developed, including those used by the US Department of Health and Human Services’ Healthy People 2010 initiative, the US National Healthcare Quality Report, and the National Healthcare Disparities Report. Over 100 initiatives have now been implemented to track health care performance for women; this trend reflects women’s unique health care needs.

Over the past three years, Ontario has significantly increased its capacity to measure the performance of the cancer system, including:

- Implementing a province wide electronic reporting system for cancer pathology.
- Initiating the routine collection of performance data for cancer surgery.
- Implementing the Cancer System Quality Index (CSQI).

In the past, performance data were collected and reported in an ad hoc fashion and only on selected cancer services. Now, there is routine reporting from prevention to end-of-life care. Each of the regional leaders of cancer programs across the province is also expected to use the CSQI results for planning and quality improvement.

Key Findings: Data and Performance Measurement

Data is available by gender for many parts of the cancer system, so it is now possible to measure and report many of the quality indicators in the CQSI by gender.

CCO is working to improve the quality of cancer data in the province. However, there are significant gaps in data availability that limit what can be measured. Specifically:

- Data for many indicators are not available for patients treated outside the cancer care system.
- It is not possible to assess the quality of care for subgroups of women who may – because of culture, income, education or other factors – be underserved.
- Cancer stage information – which is an important indicator of access problems, delayed care or suboptimal quality care – is only available for about one-third of cancer patients.
Ontario’s Capacity to Measure the Quality of Services for Women with Cancer

In its first year, the CSQI focused on one dimension of equity in the delivery of cancer services: geographic variation. It included a combination of regional comparisons, county comparisons, and comparisons across regional cancer centres. To understand other equity issues, other dimensions or variables must also be analyzed, including patient sex, age and sociodemographic characteristics.

Cancer Care Ontario already reports on sex differences in risk behaviours (e.g., smoking, obesity). Essential information on health system performance for women can be obtained by collecting and analyzing data on other measures separately by sex. The routine assessment of sex and/or gender differences is called gender mainstreaming. Mainstreaming performance reporting by sex and gender can identify quality issues related to patient sex and help cancer services design appropriate interventions and monitor progress in closing any equity gaps.

A number of cancer services are either currently collecting or could collect sex-specific data. Table 1 shows the availability of province wide data in Ontario to measure cancer system quality. For each of the cancer services for which data are currently available, from prevention to end-of-life care, sex-specific data are currently collected. However, data is not available for the entire population for all services.

Cancer system performance may not only differ between men and women, but between subgroups of women who may have different needs and experiences with care. The cancer system lacks data on subgroups of women who may – because of income, education, ethnicity, language or other factors – experience differences in health care quality. This is a gap that should be addressed. Better information on stage of cancer at diagnosis is also needed. When people are diagnosed in the late stages of a cancer that can be detected by screening, this indicates access barriers, delayed care, or suboptimal quality services. At the current time in Ontario, cancer stage information is being tracked only within Ontario’s regional cancer centres, which account for approximately a third of all cancer patients in the province. This issue is being addressed as part of the CSQI.

Table 1: Availability of Ontario-wide data on cancer and sex-specific reporting

<table>
<thead>
<tr>
<th>Cancer service</th>
<th>Approximate % of Ontario population for whom cancer data are currently available</th>
<th>Sex-specific reporting possible</th>
<th>Sex-specific reporting initiated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer risk factor surveillance</td>
<td>85%</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Screening (breast cancer)</td>
<td>40% (routine) 60% (by special study)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Screening (colorectal cancer)</td>
<td>By special study only</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Screening (cervical cancer)</td>
<td>80-85%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Diagnostics: pathology</td>
<td>90%</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Diagnostics: imaging</td>
<td>0%</td>
<td>Y – by special study</td>
<td>N</td>
</tr>
<tr>
<td>Surgery</td>
<td>95%</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Chemotherapy and hormone therapy</td>
<td>65%</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Radiation therapy</td>
<td>100%</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Palliative and supportive care</td>
<td>By special study only</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Source: Cancer Care Ontario, 2005.
**Recommendations: Improve Measurement and Reporting**

Ensuring that sex specific data are collected and reported (when relevant) would benefit the CSQI. It would allow the CSQI to monitor equity in the delivery of cancer treatment, access to services, stage-specific survival rates, and many other outcomes. As Ontario improves its ability to collect and apply cancer stage information to performance measurement, it will be possible to identify which Ontarians are not benefiting from early detection and screening programs as well as to assess quality and outcomes of care by stage at diagnosis. Integrating patient gender into performance measurement and reporting would allow the system to identify differences in quality and to develop gender-based targeted improvement strategies when they are needed. Integrating other equity dimensions (e.g., sociodemographic characteristics) would allow the system to identify and target disparities in quality of care among women.

1. **When possible, cancer indicators should be reported by sex.** Analyzing data based on sex allows the cancer system to ensure that both women and men receive equitable access to cancer services, and benefit equitably from cancer treatment. A gender analysis can be used to identify gender-specific risks or outcomes: information that can be used to develop more effective prevention programs, treatment services, and end-of-life care, improve quality and increase patient satisfaction.

2. **To improve our ability to assess quality of care for all women, the MOHLTC and CCO should continue their efforts to improve data quality and availability.** Ontario needs data to assess the quality of cancer care for women whether they are treated in the cancer care system or in their local community. To assess differences in system performance among subgroups of women, Ontario needs data on socio-demographic factors, such as income, education, ethnicity and immigrant status, as well as better clinical data, such as cancer stage.

3. **Measurement and reporting of CQSI indicators for at risk subgroups of women is desirable.** To ensure all Ontarians have equitable access to quality services, the province's cancer system must understand more about the needs of different subgroups of the population and how different factors affect their ability to access and benefit from cancer services. Measuring and reporting this information will make it possible to identify and address any disparities.
A cancer service delivery system is accessible when the right patients are able to get the right treatments and tests at the right time. In an accessible system, patients are screened appropriately, referred to and receive recommended treatments, and are able to receive all necessary supportive care, including help navigating the system. While a significant amount of public attention is paid to waiting times (i.e., patients who are already in the queue), access to cancer services will not improve unless attention is also paid to patients who may not be receiving appropriate referrals, who may face barriers in getting to their appointments, or who are not yet diagnosed (due to limited access to screening).

As is true in all health care systems, Ontario faces a number of challenges to improving cancer service access. Cancer care requires a complicated patient journey, with multiple specialists, treatments and settings. Patients face a series of waits as they move through the system from diagnosis to surgery and other treatments. As the population ages and grows, more and more people will reach the typical age of onset for cancer, and the demand for cancer services will increase.

New technologies in cancer diagnostics and treatment must continually be integrated into clinical practice. There are also significant capacity constraints in the system including human resources, finances, and equipment. Finally, poor coordination of care can lead to unnecessary delays or worse, patients not being referred to needed services.

Results from the CSQI show that access to cancer services remains an issue across the province: cancer screening rates are low, the length of time a patient must wait for cancer treatment needs to be improved, and end-of-life care patterns may not reflect patient preferences. Improving access to health care services is a top priority for the Ontario government. The Cancer Quality Council of Ontario is currently implementing a four-point strategy to improve access to cancer services.

To determine whether there are gender differences in the accessibility of cancer services, we examined the extent to which women are accessing screening, treatment services, and end-of-life care.
1. Access to Screening and Testing

**Key Findings: Access to Screening**

- Despite the potential for screening programs to reduce cancer and save lives, screening rates for breast cancer (60%), cervical cancer (74%) and colorectal cancer (<20%) are all significantly below provincial targets (90%, 95%, 90% respectively).
- A significant proportion of women who are eligible for screening programs are not participating in them.
- There is not enough data to identify the specific barriers to breast cancer screening; however distance from screening centres may be a factor for some women.
- The Canadian women who are under-screened or have never been screened for cervical cancer are more likely to be of low socio-economic status, immigrants, or Aboriginal.
- Socio-economic status and ethnicity is also associated with women’s access to follow-up cervical cancer investigations (e.g., colposcopy).
- Low rates of colorectal screening in Ontario are likely due to lack of screening capacity in the province, and lack of patient acceptance of screening tests.
- The system lacks critical data needed to improve screening programs, including more information on who is not being screened, staging data on people diagnosed with cancer, and information on the barriers that keep women and men from being screened.

**Access to Breast Cancer Screening**

Breast screening can detect cancer early before symptoms appear, leading to more effective treatment and a decreased likelihood of death. The Canadian Task Force on Preventive Health Care has recommended that all women between the ages of 50 and 69 be screened for breast cancer using mammography once every two years (i.e., biennially). Ontario’s target is to have 90% of eligible women screened biennially by 2020.

Currently almost 60% of screen-eligible women in Ontario are being screened biennially. Approximately half are being screened in the Ontario Breast Screening Program, which is the province’s organized breast screening program; the other half are being screened by their family physicians or other services in their community (see Figure 1). The proportion of Ontario women being screened biennially falls short of the 70% national target and the more ambitious 90% by 2020 provincial target set by Cancer Care Ontario.

**Some Facts about Women and Breast Cancer**

- Women are more likely to develop breast cancer than any other type of cancer.
- In 2005, about 8,200 women in Ontario were diagnosed with breast cancer.
- About 75% of Ontario women diagnosed with breast cancer in 2005 were over age 50.
Figure 1: Percent of screen-eligible women (ages 50-69) receiving a mammogram within the past 2 years in Ontario, 2001-2004

There is not enough data on the women not being screened to identify the specific barriers to screening; however distance from screening centres may be a factor for some women.

**Access to Breast Cancer Testing**

Women with an abnormal result on a mammogram must be referred for further testing and assessment (e.g., biopsy, ongoing monitoring) to determine whether they have breast cancer. A long delay between an abnormal mammogram and further testing may be associated with higher rates of recurrence. Based on Health Canada guidelines, 90% of women who have an abnormal mammogram should be tested within five weeks (if they do not require open biopsy), and within seven weeks (if they require an open biopsy).

Figure 2 compares wait times between an abnormal mammogram and a diagnosis and/or last procedure by type of screening from 2000 to 2002. At the median, women who were screened outside the Ontario Breast Screening Program waited slightly longer than those screened in the program for further testing (i.e., 3 weeks compared to 2.5 weeks). At the 75th percentile, the gap was much wider: 8 weeks compared to 5 weeks.

**Figure 2: Median and 75th percentile waiting times from bilateral mammogram to resolution**

Ontario Breast Screening Program and other – Ontario, 2000-2002

Source: Ontario Health Insurance Plan database; Cancer Care Ontario, Ontario Breast Screening Program

Sources: Cancer Care Ontario, Ontario Cancer Registry & Ontario Breast Screening Program; Ontario Health Insurance Plan Database; Canadian Institute for Health Information Discharge Abstract Database

Notes: * Resolution of mammogram includes diagnosis and/or last procedure, including further imaging; Other includes mammography performed outside the Program for women without a prior diagnosis of breast cancer
Access to cervical cancer screening

Unlike mammography, screening for cervical cancer can actually prevent the cancer from occurring. Cervical cancer screening, using the Pap test, can identify early changes in the cells, and treatment can prevent cancer or catch cervical cancer in the early stages when it is curable. According to evidence-based guidelines, sexually active women should initially be screened for cervical cancer once a year. If results are normal for three consecutive years and they are not in a high risk group (e.g., history of sexually transmitted infections, HIV infection), they should be screened every two to three years.\(^5\) Ontario’s target is to have 95% of eligible women participating in organized cervical screening programs by 2020.

According to the Ontario Cervical Screening Program data, the proportion of women aged 20 to 69 who had a Pap test within the last three years varied across the province, ranging from 23.5% to over 90% in different parts of the province. These rates should be interpreted with caution because they are based on information collected from a number of sources and the quality of the data may vary in different regions.

Table 2 lists self-reported cervical screening rates:

- 74% of Ontario women between the ages of 18 and 69 reported having been screened in the last 3 years.
- 12% reported never having had a Pap test.

While screening rates for cervical cancer are relatively high, they are still below the 95% provincial target. Many women (12%) have never been screened or are not screened regularly. Screening rates are lower among low income, immigrant, and Aboriginal women.\(^5\)\(^6\)\(^\)\(^7\)

Socio-economic status and ethnicity also appears to be associated with women’s ability to access follow-up diagnostic tests for abnormal Pap tests. In one study, women from an economically disadvantaged and ethnically diverse area of Hamilton, Ontario, were less likely than women from other areas to follow through on referrals to a regional clinic some distance away for a colposcopy (i.e., a biopsy done after a positive Pap test to detect a genital wart or other cervical disorder). When an on-site colposcopy service was introduced at the referral centre, the attendance rate for the disadvantaged women rose to over 98%.\(^6\)\(^2\)

To develop programs to reach never and under-screened women, it is important to know which Ontario women are not being screened, and to gather demographic information about them, such as their age, socio-economic status, ethnicity, and immigrant status.

### Table 2: Self-reported Pap test rate in Ontario women ages 18 to 69, 2003

<table>
<thead>
<tr>
<th>When tested</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1 year ago</td>
<td>49.9</td>
</tr>
<tr>
<td>1 – &lt;3 years ago</td>
<td>24.0</td>
</tr>
<tr>
<td>Total tested in last 3 years</td>
<td>73.9</td>
</tr>
<tr>
<td>Never had a pap smear</td>
<td>11.7</td>
</tr>
</tbody>
</table>


---

Some Facts about Women and Cervical Cancer

- Since the introduction of the Pap test in the 1940s, rates of cervical cancer have dropped by about 75%.
- Despite the existence of an effective screening tool and treatments, there are groups of women who have not been screened or who are not screened regularly.
- Every week 11 Ontario women get cancer of the cervix and 3 die from it.
While Pap testing is the current gold standard for cervical screening, the discovery of a causal link between sexually transmitted strains of human papilloma virus (HPV) and the development of HPV vaccines will provide new approaches to cervical cancer prevention in the near future.

Access to colorectal cancer screening

Like cervical cancer screening, colorectal cancer screening can prevent cancers from occurring. According to evidence-based guidelines, adults between the ages of 50 and 74 should be screened every one to two years for colorectal cancer. Ontario’s target is to have 90% of eligible adults participating in colorectal screening by 2020. Although there are several screening methods for colorectal cancer, including colonoscopy, sigmoidoscopy, barium enema and fecal occult blood test, only about 20% of eligible Ontario adults are being screened for colorectal cancer.

Access by type of colorectal screening

According to results from randomized controlled trials, if people had the fecal occult blood test once every one to two years and those with positive results received appropriate follow-up, the number of people diagnosed with colorectal cancer would be reduced by 18% and the colorectal cancer death rate would drop by 15 to 33%.

Figure 3 illustrates the proportion of eligible men and women in Ontario who received a fecal occult blood test each year from 2001 to 2003. Screening rates for both sexes by this method are very low: less than 10%. (Note: The chart includes only tests billed through the Ontario Health Insurance Plan, and does not include any tests performed in hospital. Some of the tests included may have been done for diagnostic purposes – that is, for a patient experiencing symptoms – rather than for screening.) Although more women than men are having fecal occult blood tests, and rates appear to be increasing slightly over time, the differences are negligible.

Figure 3: Percent of screen-eligible adults (ages 50–74) who received a fecal occult blood test (FOBT) by sex – Ontario, 2001–2003

Some Facts about Women and Colorectal Cancer

- Colorectal cancer is one of the most commonly diagnosed cancers in women.
- Among women who are nonsmokers, colorectal cancer is the most common cause of cancer death.
- Almost as many women as men are diagnosed with colorectal cancer, but many still believe that colorectal cancer is a man’s disease.

In Ontario, between 1992 and 2001, the proportion of men between the ages of 50 and 74 being screened for colorectal cancer (using a procedure other than the fecal occult blood test) increased about 16% and the proportion of women increased 14%; however, even with these increases, less than 7% of men, and just over 6% of women are being screened by these methods.
According to research in the United States, the use of fecal occult blood testing varies with body mass index: people who are morbidly obese have the lowest screening rates. Participation of both sexes in this type of screening varies with age, race, marital status and having a usual source of medical care. Low rates of colorectal screening in Ontario are likely due to lack of screening capacity in the province, and lack of patient acceptance of screening tests such as colonoscopy. Because women attend physicians’ offices more frequently than men, they are likely offered colorectal screening more often than men, so one possible explanation for the lower rates of colorectal screening in women by methods other than fecal occult blood testing is that they may be more resistant to being tested. A recent study found that women patients prefer women endoscopists, and that this preference is strong enough to cause them to delay having an endoscopic procedure, such as a colonoscopy or sigmoidoscopy.

Factors affecting access to cancer screening
Lack of data on who is not being screened now, and on the barriers that keep women and men in Ontario from being screened makes it difficult to identify with certainty the factors affecting access to cancer screening. CCO does not have complete access to important information, including screening results, recall, diagnostic followup, outcome and population data, required to assess quality assurance and ensure screening programs are reaching their target population. Based on the literature, access to cancer services — including screening — is affected by a number of factors, including:

- **The capacity of the service delivery system and service delivery models.** For example, some types of colorectal screening may only be offered by certain providers in certain settings so lack of human resources or infrastructure can affect access.

- **The availability and expertise of health-care providers.** People who do not have a regular family physician or whose providers are either not aware of when to refer or doubt the effectiveness of specific services (e.g., the fecal occult blood test) are less likely to be referred for cancer screening.

- **The person’s ability to access services.**
  Demographic characteristics, including culture, ethnicity, disability, immigrant status and homelessness, are associated with poor access to care. People who have limited financial resources may be unable to travel to appointments.

- **Health literacy, culture, beliefs and attitudes.**
  People’s health literacy (i.e., ability to read, comprehend and use information to obtain adequate health care), their cultural and health beliefs, and their comfort using certain services can affect access. Personal preferences also affect decisions about screening and treatment.

Efforts to increase the proportion of women and men being screened and to reach those who are not participating in screening programs are limited by lack of information on:

- Screening rates among different subgroups of women and men (e.g., by age, socioeconomic status, ethnicity).
- The barriers to accessing screening.
- Information on the stage of cancer at time of diagnosis (i.e., late stage diagnosis for breast, cervical, and colorectal cancer represents missed opportunities for screening and early detection).
Recommendations: Improve Access to Screening

Ontario has introduced a number of initiatives designed to increase cancer screening rates that includes:

- Setting targets.
- Providing patient and provider education.
- Expanding the Ontario Breast Cancer Screening Program to more sites across the province.
- Launching the Ontario Cervical Screening Program.
- Making screening programs available (e.g., reminders, follow-up) through public health units.
- Making screening programs a priority for the newly formed family health teams.
- Actively recruiting people to screening programs, focusing particularly on women who are less likely to participate in screening.
- Identifying and removing barriers to screening (e.g., using mobile screening vans for breast cancer screening in remote or rural areas, establishing streamlined breast assessment units that will provide both screening and testing services in one setting, thereby reducing wait times and providing more patient-centred care).
- Conducting research, including research on alternative approaches to testing and prevention, such as testing and a vaccine for human papillomavirus, a common sexually transmitted disease associated with cervical cancer.

1. **Ontario has an opportunity to improve cancer screening rates and reach provincial targets.** In addition to the initiatives already underway, Cancer Care Ontario should work closely with MOHLTC, LHINS, Ontario Health Quality Council, public health and the primary care system – particularly family health teams and community health centres – to:

   Publicize the recommended screening tests, and encourage all eligible women and men to request regular cancer screening from their primary care providers.

   Educate providers and the public about the risks of cancer and the benefits of screening, focusing particularly on the risk of colorectal cancer in women.

   Identify and address any disparities in access to cancer screening based on factors such as gender, age, income, education, ethnicity, or body mass index.

   Develop targeted outreach programs for subgroups of women and men who are under-screened.

   Establish comprehensive programs that offer women screening for different cancers during the same visit.

   Take into account women’s and men’s acceptance of screening tests and develop strategies to overcome resistance to certain types of screening (e.g., colorectal screening).

   Develop programs to raise awareness of the link between sexually transmitted infections (STIs) and cervical cancer.

2. **Cancer Care Ontario in conjunction with other providers of cancer screening should develop mechanisms to track cancer screening across the province and collect the data required to improve screening programs and participation rates including:**

   Demographic information on people being screened (i.e., gender, age, ethnicity, socio-economic status, immigrant status, body mass index, education).

   Demographic information on people who are not accessing screening.

   Information on barriers to screening by population.

   Better data on stage of cancer at diagnosis.

   Mechanisms to track screening across the province.
2. Are Cancer Treatment Services Accessible to Women?

Once women are diagnosed with cancer, they need timely access to the best available treatments. Some waiting is necessary for both radiation and systemic therapy (i.e., chemotherapy); however, when waits are too long, they may cause psychological distress and affect health outcomes.

Figures 4, and 5 indicate that there is no difference in wait times between men and women receiving radiation or chemotherapy in the province’s 11 regional cancer centres. Once people are referred to the cancer centres for treatment, sex and gender do not appear to have an impact on wait times.

Figure 4: Radiation therapy waiting times, referral to start of radiation therapy (all reporting cancer centres) breast cancer – Ontario, 2002-2004

Figure 5: Systemic therapy waiting times all cancers by sex – Ontario 2002-2004

Because of lack of data, it is not possible to determine whether there are gender differences in wait times among people receiving chemotherapy outside the province’s cancer centres, or whether people are being referred appropriately for cancer treatment. It is also not possible to determine whether there are differences in wait times for radiation or systemic therapy among subgroups of women based on age, socio-economic status, ethnicity or other factors.

Source: Cancer Care Ontario, Activity Level Reporting

Notes: 1. Excludes cases receiving chemotherapy prior to radiation therapy;
2. Excludes all time intervals greater than 20 weeks;
3. Includes Grand River and Durham Regional Cancer Centres as of 2003, and Princess Margaret Hospital as of March 2004
Figure 6 highlights the variation in use of radiation therapy for the initial management of breast cancer across the province. From these utilization rates, it appears that the closer a woman with breast cancer lives to a cancer centre, the more likely she is to access radiation treatment. Disparities in radiation utilization rates may indicate that some women are either not being referred appropriately or they face other barriers accessing treatment.

Recommendations: Improve Access to Cancer Treatment

Ontario is in the process of expanding existing cancer centres and building new ones, which will increase capacity to provide treatment, which should reduce wait times. In 2005, the Access to Cancer Services Innovation Fund provided funding for 22 innovative projects that will reduce wait times, improve processes and make better use of health professionals and technology.

In addition to these initiatives:

1. Cancer Care Ontario in conjunction with the regional cancer programs should collect the data required to identify any disparities in access to treatment including:
   - Information on factors that may affect referrals to radiation therapy and utilization rates.
   - Information on wait times for systemic therapy (i.e., chemotherapy) in all treatment settings outside the province’s regional cancer centres.
   - Demographic information on all people receiving radiation or systemic therapy in all cancer treatment settings including gender, age, ethnicity, income, education, and immigrant status.

2. If any disparities in access to treatment are identified, Cancer Care Ontario should work with service providers to develop targeted interventions to ensure subgroups of women or men who may be undertreated have equitable access to cancer treatment.

Figure 6:

Note: Benchmark utilization rates were developed by comparing an evidence-based estimate of appropriate radiation therapy use with the rates in benchmark communities (i.e., communities that have no barriers to appropriate use, and do not have long waiting lists for treatment).\textsuperscript{82} Utilization rates in communities with longer wait times are then compared to rates in communities with relatively short wait times.

Sources: Division of Cancer Care and Epidemiology, Queen’s Cancer Research Institute; Cancer Care Ontario, Ontario Cancer Registry
3. IS END-OF-LIFE CARE ACCESSIBLE TO WOMEN?

Access to appropriate end-of-life care is critically important for cancer patients and for their caregivers, but is especially important for women who typically assume the caregiver role. Women make up a large percentage of the elderly population and are more likely than men to live alone as they age.

Patient needs and preferences in terms of quality of life, adequate symptom management, and the appropriate care setting at the end of life are all key aspects of quality care. Table 3 compares the quality of end-of-life cancer care for men and women, based on four indicators developed by researchers at the Dana Farber Institute in the United States\(^{83}\), adjusted for cancer type and region. The first two – emergency room visits within last two weeks and in-hospital deaths – are indicators of undesirable end-of-life care; the last two – physician house calls and home care – are indicators of desirable end-of-life care.

Compared to men, women are significantly less likely to die in hospital (Adjusted OR 0.787 in 2001 and 0.81 in 2002) or to have an emergency room visit (Adjusted OR 0.731 in 2001 and 0.80 in 2002). In unadjusted analyses women are less likely than men to have home care in the last six months of life. After adjusting for potential confounders (i.e. age, cancer type and region) they are slightly more likely to have home care in the last six months of life (Adjusted OR 1.15 in 2001). In terms of physician house calls within the two weeks of life, there is no significant difference between men and women. Based on these results, women with cancer appear to have somewhat better access to desirable end-of-care; however, there is much room for improvement for both men and women.

### Key Findings: Access to End-of-Life Care

- Women with cancer appear to have somewhat better access to desirable end-of-life care than men, however there is much room for improvement in end-of-life care for both men and women.
- Women are less likely than men to die in hospital or to have an emergency room visit in the last two weeks of life.
Table 3: Patterns of end-of-life care in Ontario, 2001-2002

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year</th>
<th>Female N (%)</th>
<th>Male N (%)</th>
<th>Adjusted* Odds Ratio (F vs. M)</th>
<th>P-value for OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER visit within two weeks</td>
<td>2001</td>
<td>2,445 (42.13)</td>
<td>3,358 (57.87)</td>
<td>0.731</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>2,602 (43.08)</td>
<td>3,438 (56.92)</td>
<td>0.801</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Death in hospital</td>
<td>2001</td>
<td>5,433 (45.40)</td>
<td>6,534 (54.60)</td>
<td>0.787</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>5,546 (45.89)</td>
<td>6,539 (54.11)</td>
<td>0.81</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>House calls within two weeks</td>
<td>2001</td>
<td>2,391 (47.26)</td>
<td>2,668 (52.74)</td>
<td>0.961</td>
<td>0.3300</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>2,260 (47.35)</td>
<td>2,513 (52.65)</td>
<td>1.031</td>
<td>0.4496</td>
</tr>
<tr>
<td>Home care within six months</td>
<td>2001</td>
<td>7,148 (48.39)</td>
<td>7,623 (51.61)</td>
<td>1.147</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Source: Cancer Care Ontario, Ontario Cancer Registry; Canadian Institute for Health Information Discharge Abstract Database; Ontario Health Insurance Plan database; Ontario Home Care Administrative System. Analysis by Dr. Lisa Barbera, ICES.

*Adjusted for age, cancer type and region.

Recommendations: Improve Access to End-of-Life Care

Increasing the availability of palliative home care is likely to have a substantive impact on the use of acute care services and on patient satisfaction. The Ontario government has launched a strategy for end-of-life care. Every region of the province has received funds to develop palliative care networks and delivery models. Cancer Care Ontario is working to develop models of palliative cancer care that include accessible, quality palliative care, available throughout the province.

To ensure that everyone benefits from end-of-life services, Cancer Care Ontario and the Ministry of Health and Long-Term Care should:

- Identify any disparities in access to end-of-life care based on gender, ethnicity, socioeconomic or other factors and develop targeted interventions to ensure equitable access to appropriate end-of-life care.
- Identify the supports required to enable more people to receive palliative care in their homes (e.g., supports for family caregivers who have a job).
To ensure quality cancer services, Ontario must be able to provide consistent evidence-based cancer care. We examined CSQI indicators of evidence-based care: the use of practice guidelines for treating cancer and participation in clinical trials.

### Key Findings: Evidence-based Care

- Women and men in Ontario who are referred to and treated in the formal cancer system receive care that reflects clinical practice guidelines. There is not enough data to determine whether men and women treated outside the cancer centres receive the same consistent quality of care.
- Average differences in the quality of care between women and men are generally small and, in many instances, a higher proportion of women than men are receiving evidence-based care.
- There is no information on the number of women involved in clinical trials in Ontario, or on gender differences in participation.
- Even when women are included in clinical trials, the resulting data are often not analyzed by gender. Simply involving women in clinical trials is not enough to ensure that the results will be analyzed for their effects on women, or for gender differences.

### III. Are Women Receiving Care Based on the Best Available Evidence?

#### 1. Are Women Receiving Quality Care Based on Clinical Practice Guidelines?

Clinical practice guidelines are designed to help ensure that new treatments are used appropriately by all providers. They set out the best treatment available for a specific site and stage of cancer, based on the latest scientific and clinical evidence. When providers adhere to clinical practice guidelines, patients are more likely to receive the best care and have better outcomes.

**The quality of care and treatment of women with cancer**

Health services researchers have selectively studied the use of guidelines, but only a few, primarily US-based studies have looked specifically at the degree to which women are receiving evidence-based care. Those studies have identified differences in quality of care between men and women as well as differences among women based on factors such as race and age. For example:

- Only 24% of a cohort of pancreatic cancer patients received the best available treatment (i.e., combined modality therapy). Women were 8% less likely than men to receive combined modality therapy.
- Non-medical factors, such as race and socio-economic status, had an impact on whether women receive chemotherapy to treat metastatic lung cancer.
- Older women were less likely to receive some therapeutic interventions than younger women even when co-morbidities were controlled. In one study of estrogen receptor positive breast cancer patients, women aged 50 to 65 and those over age 65 were six and sixty-two times less likely, respectively, to receive adjuvant chemotherapy than women under 50.
III. Are Women Receiving Care Based on the Best Available Evidence?

These findings are similar to those in other parts of the health care system. In cardiovascular care, there is evidence that women do not always receive the same standard of care as men. For example, women and older people in Quebec were less likely to be prescribed recommended treatments for ischemic heart disease (e.g., anti-platelet, beta-blocker and lipid-lowering drugs) than younger men.88

While the studies noted above may indicate differences in cancer treatment based on sex or gender, their findings should be used with caution. The few studies that have been done to assess cancer treatment by sex are small and lack statistical power. Caution should also be used in applying the results of American studies to Ontario: the health care systems are quite different.

The quality of care and treatment of women with cancer in Ontario

Cancer Care Ontario has recently begun to assess the extent to which practice in its programs reflects clinical practice guidelines. The CSQI includes an analysis of the practices of its regional cancer centres based on five clinical practice guidelines.

For this report, researchers analyzed the same data for sex and gender differences, looking at both a sex-specific cancer (i.e., breast cancer) and cancers that affect both men and women (i.e., colon cancer, lung cancer).

As Figure 7 illustrates, virtually all women with early stage breast cancer who receive radiation therapy are being treated according to the provincial treatment guideline. While it is reassuring to know that women who are treated receive evidence-based care, we do not have data on the number of women with breast cancer who are not referred for radiation therapy and, therefore, are not receiving optimal care.

Similar trends were seen in treatment for other cancers:

- Over 90% of patients receiving chemotherapy for stage III colon cancer in cancer centres in 2003 received the recommended treatment. Overall, women were slightly more likely than men to receive the most appropriate treatment (see Figure 8).
Figure 7: Percent of stage I breast cancer patients treated with radiation therapy according to provincial guidelines – Ontario 2002-2003

Source: Cancer Care Ontario, Activity Level Reporting

Figure 8: Percent of stage III colon cancer patients treated with systemic therapy according to provincial guidelines by sex and age – Ontario, 2003

Source: Cancer Care Ontario, Activity Level Reporting

Note: *Includes some patients of unknown age
• 100% of women with stage IIIa lung cancer treated within regional cancer centres in 2003 received evidence-based care, while the rate for men was slightly lower.

• There were some differences between men and women receiving systemic therapy for stage IIIb lung cancer in different age groups but the differences are relatively small and may be due to other factors.

• The greatest variation in treatment occurred in people with stage IV lung cancer (see Figure 9). Men in all age groups except 45 to 49 were slightly more likely than women to receive care consistent with practice guidelines. (Note: This guideline is relatively recent and adherence is likely to improve over time.)

Average differences in the quality of care between women and men are generally small; in many instances, a higher proportion of women than men are receiving evidence-based care. The data also tell only part of the story. They reflect only the experience of women and men seen in the province’s integrated cancer programs who were referred and received treatment. They do not provide information on:

- People who are not referred for treatment.
- People who are referred but not treated.
- People who received systemic therapy outside the province’s regional cancer centres.

**Figure 9: Percent of Stage IV lung cancer patients treated with systemic therapy according to provincial guidelines by sex and age – Ontario, 2003**

Source: Cancer Care Ontario, Activity Level Reporting

Note: *Includes some patients of unknown age*
2. ARE WOMEN PARTICIPATING IN CLINICAL TRIALS?

Most new cancer treatments are developed through clinical trials: studies that evaluate and establish the risks and benefits, safety and effectiveness of a treatment, drug or screening test on humans. Despite the fact that clinical trials can pose some risks and not all patients want to participate in them, they are an important part of an efficient cancer system and a feature of high quality cancer programs.

Although women outnumber men in the population, and there are sex differences in drug metabolism, side-effects, and toxicity, women do not participate in clinical trials as frequently as men. According to a systematic review of all articles published in The New England Journal of Medicine, between 1994 and 1999, fewer than a quarter of people participating in randomized clinical trials were women.

When few women participate in clinical trials:
- Results may lack external validity and cannot be generalized to the population as a whole.
- Studies will not have the power to detect potential sex or gender differences.
- The lack of information on women makes it difficult to develop clinical practice guidelines or targeted prevention interventions, and affects quality of care. For example, women were often excluded from AIDS research and then excluded from receiving certain treatments because they had not been tested on women.

To develop treatments that will be effective for men and women, clinical trials must include women and be sensitive to sex and gender differences. For example, over 97% of clinical research projects submitted for ethics review at a Canadian tertiary care university teaching hospital from July 1995 to June 2000 intended to recruit women, but only 20% planned to analyze the data by sex. Simply involving women in clinical trials is not enough to ensure that the results will be analyzed for sex and gender differences.

Ontario has high involvement in cancer clinical trials. In 2004, 10% of all patients treated in Ontario's cancer centres were enrolled in treatment-based clinical trials (including surgery, systemic therapy and radiation therapy), representing almost 4,000 cancer patients. Between 2003 and 2004, over 1,100 additional Ontarians were recruited into cancer clinical trials, reflecting a concerted effort by the Ontario Cancer Research Network and CCO regional cancer centres to double the number of Ontarians enrolled in clinical trials over a four-year period. Ontario’s 2004 rate of cancer clinical trial participation in regional cancer centres was higher than the previous estimates of 3 to 5%, however it is not clear what is an optimal enrollment rate.

The CSQI provides the first public report on participation in clinical trials, but the data are still very rudimentary. There is no information on the number of women involved, or on gender differences in participation. This is a common data gap.
Recommendations: Strengthen Evidence-Based Care

If Ontario is to improve the quality of cancer services and prevention interventions for women and men, then the cancer system must consider sex and gender as important factors to consider in: developing new cancer treatments, preparing cancer treatment guidelines, assessing practice in relation to guidelines, and designing interventions to improve performance. If there are sex and gender differences, then the strategies required to improve quality may differ for men and women.

To improve the quality of cancer services for women and men, and to ensure that Ontarians receive evidence-based care:

1. Cancer Care Ontario should conduct more studies on the extent to which clinical practice guidelines are translated into clinical practice, by patient sex and age, in all settings where cancer services are delivered.

2. If disparities are found between clinical practice guidelines and the care provided, Cancer Care Ontario should work with service providers to develop gender-sensitive strategies to improve performance.

3. The Ontario Cancer Research Network should require all centres participating in clinical trials to collect and report data on the demographic characteristics of patients enrolled in the trials. This information can be used to improve recruitment to clinical trials and to ensure that women as well as other population subgroups are adequately represented in trials conducted in the province.
This year, there will be an estimated 28,000 new cancer cases and 12,000 cancer deaths in Ontario women. The desired outcomes of cancer services are to:

- Reduce exposure to modifiable risk factors and prevent new cases (population health).
- Improve treatment outcomes and cancer survival (outcomes).
- Lower the level of pain and discomfort experienced by cancer patients, and increasing patient satisfaction (patient centredness).

To assess whether cancer services are leading to better outcomes for women, this section looks specifically at:

- Tobacco use and obesity, two key modifiable risk factors.
- Trends in new cancer cases, survival rates and cancer deaths.
- Patient satisfaction with pain management and with quality of cancer care.

### 1. Reducing Cancer Risks

#### Key Findings: Outcomes of Efforts to Reduce Risk

- Between 1990 and 2003, the proportion of Ontario women who smoke dropped from 30% to 20%, which indicates that Ontario’s broad based prevention programs have had an impact.
- Smoking is still a significant health problem for women. In the next few years, for the first time in history, the number of deaths attributed to tobacco in Ontario women will exceed that of men.
- Smoking rates are highest in women in northern parts of the province and in Kingston. Smoking is also more common among adolescent women, single parents (male and female) and women with lower incomes.
- Women are motivated to smoke for different reasons than men (e.g., to control their weight). Although broad population-based interventions have been effective in reducing smoking in both women and men, women may need more targeted interventions that take into account the factors that cause them to smoke.
- Between 1996 and 2003, the proportion of Ontario women who are obese increased from 10% to 14%. Obesity in women has increased in all parts of the province, particularly in the Thunder Bay and Windsor regions.
- For many women, time and economic constraints are a major barrier to being physically active; effective prevention programs must remove the barriers that keep women from eating properly and being more active.
As Figure 10 illustrates, 60% of all cancer deaths are related to tobacco use, diet, obesity, and physical inactivity: factors that can be modified by changes in diet and behaviour.

**Figure 10: Causes of cancer death in developed countries**

![Bar chart showing causes of cancer death in developed countries.](chart.png)


To help measure progress in preventing cancer, the Cancer Quality Council of Ontario is tracking tobacco use and obesity, two major risk factors for a number of cancers.

**Tobacco use in Ontario women**

Over the past 30 years, Ontario has made some progress in reducing smoking in women. Between 1990 and 2003, the proportion of Ontario women who smoke daily dropped by about one-third: from 30% to about 20% (see Figure 11).

**Facts about Tobacco Use and Health**

- In Ontario, tobacco use is the leading cause of preventable death and disease.
- Women appear to be more likely to develop lung cancer than men who smoke the same number of cigarettes.1
- Lung cancer now kills more women than breast cancer.1

**Figure 11: Daily smoking rates among adults (ages 18+) by sex – Ontario 1991-2003**

![Line graph showing daily smoking rates among adults by sex in Ontario.](graph.png)

Although the proportion of Ontario women who smoke has declined about 50% since its peak in the 1970s, smoking is still a significant health problem for women. In the next few years, for the first time in history, the number of deaths attributed to tobacco use by Ontario women will exceed that of men (see Figure 12).\textsuperscript{93}

**Figure 12: Tobacco-attributed deaths – Ontario 1950–1999 and projected for 2000–2015**

Despite successful prevention efforts and high awareness of the risks associated with tobacco, many adult and adolescent women continue to smoke. Smoking appears to be a particular risk for women in northern parts of the province and in the Kingston area.

Historically, smoking has been more common in men than women, but in recent years that trend has changed – particularly among adolescents. According to studies based on national data, the prevalence of smoking among girls ages 15 to 24 (34%) is almost equal to that among men ages 24 to 44 (34.4%).\textsuperscript{94}

In some parts of the province, more young women than young men are smoking. In 2001, for Ontario as a whole, a slightly higher proportion of adolescent girls (17%) than boys (16%) smoked (Figure 13). In 2003, smoking rates in both adolescents girls and boys had dropped to about 14% but in four parts of the province – the Hamilton, Windsor, Sudbury and Thunder Bay region – smoking was more prevalent among teenage girls than boys. Thunder Bay region had the highest rates of adolescent smokers – both male and female – but the proportion of young women smoking (28%) was much higher than young men (19%).

\begin{center}
\textbf{Figure 12: Tobacco-attributed deaths – Ontario 1950–1999 and projected for 2000–2015}
\end{center}

\begin{center}
\textbf{Men} \hspace{1cm} \textbf{Women} \hspace{1cm} \textbf{Men (projected)} \hspace{1cm} \textbf{Women (projected)}
\end{center}

\begin{center}
Source: Ontario Cancer Registry; Statistics Canada
\end{center}
The proportion of women smokers in Ontario is considerably higher than the provincial target (i.e., by 2020, 5% of adults (or fewer) and 2% of adolescents (or fewer) in Ontario will be smokers).95

Factors affecting smoking rates in women

It is important to understand the reasons behind women's recent “equality” in smoking. There are a number of gender-specific factors that contribute to women's smoking. For example:

- Many women smoke to control their weight.96
- Women appear to be more likely than men to have sensory cues (e.g., smell and taste) trigger their desire to smoke.97

***Smoking Prevention Resources for Women***

- Some smoking prevention and cessation resources (e.g., booklets, programs, videos, group programs) have been designed specifically with women in mind, including:
  - Health In Perspective (HIP) program, a national prevention program developed for girls.
  - Smokefree for Women, a Toronto-based, multi-component smoking cessation program.
  - Caring for the Caregiver: A Holistic Approach to Tobacco Cessation, a resource for women caring for children.
  - Stopping When You’re Ready, a Canadian self help program for pregnant women.
There are also some common factors among men and women smokers, such as marital status: women and men who head single parent households are the most likely to smoke.\textsuperscript{98}

We know from the literature\textsuperscript{99,100} and the Canadian Community Health Survey that other demographic factors, such as culture and socio-economic status influence women's smoking behaviours: women with lower socio-economic status are more likely to smoke.

Over the past 10 years, broad-based smoking interventions have been highly effective in reducing smoking in both women and men in Ontario. The province’s Smoke-Free Ontario Strategy, led by the newly established Ministry of Health Promotion, is an ambitious plan that will invest $50 million a year in smoking prevention and smoking cessation programs.

To meet ambitious provincial targets, Ontario tobacco prevention programs must recognize the gender-based differences in smoking behaviour and take into account the reasons why some women and men continue to smoke.

**Obesity in Ontario women**

As Figure 14 shows, obesity has increased in both men and women in Ontario. By 2001, about 14\% of women between the ages of 20 and 64 were obese – up from just over 10\% in 1996. (Note: Obesity is measured using the Body Mass Index or BMI. A woman with a BMI between 18.5 and 24.9 is normal; one with a BMI between 25.0 and 29.9 is overweight; and one with a BMI of 30 or over is considered obese. This measure is only used with people between the ages of 12 and 60. It is not an appropriate standard for assessing healthy weights in children under 12 or adults over age 60).

The proportion of Ontario women between the ages of 20 and 64 who are obese has increased in all regions of the province except Toronto and Sudbury. Rates are particularly high in Thunder Bay and Windsor.

Rising rates of obesity are a concern because:

- Obesity puts women at risk for breast and endometrial cancer, and increases their risk for colon, kidney and esophageal cancer, and for other chronic illnesses such as diabetes and heart disease.\textsuperscript{101,102}

- Obesity is associated with physical inactivity (another cancer risk factor) and it affects other cancer system quality indicators, such as screening rates: according to a US study, obese women are less likely to undergo breast and cervical cancer screening than non-obese women.\textsuperscript{103}
Factors affecting obesity

In the past, people believed obesity was the result of consuming more calories than was expended. Caloric intake and inactivity are important factors, but obesity is a complex medical problem: social, environmental, genetic, and behavioural elements work together to determine a person’s weight. Psychological factors can play a role in weight gain. For example, people may cope with low self-esteem, emotional stress, guilt or trauma by over-eating. People who lead unhealthy lifestyles and are inactive, emotionally stressed and genetically prone to weight gain are likely to be obese.

Gender differences also play a role in obesity:

- Sex and age work together to affect obesity rates: a man’s weight peaks at age 50 to 54, whereas a woman’s weight will peak between age 55 and 59, and then begin to drop.

- Women have reported that time constraints are a major barrier to physical activity: the competing responsibilities of work and family consume time that women might use for exercise.

- There is also a strong relationship between socio-economic status and obesity – particularly for women, who are more likely to be obese when they are poor and of lower social status. Low income, which is a problem for many women, can compromise food choices. With respect to income, Figure 15, which is based on national data, demonstrates how obesity is related to women in poverty, while the opposite is true for men.

- Women who are economically disadvantaged, with a lower education, and minority women find it difficult to participate in physical activity for a number of reasons. For lower income women who have less discretionary income or leisure time to “spend”, participating in physical activity is too costly, while other women may not have the social support that would allow them to take the time to exercise.

- Education is also a factor in weight. A recent CCO study found that, among women ages 18 to 64, the greatest proportion of women who were overweight and obese had the least education. The same study found no similar trend for men, although men with the most education were the least likely to be overweight or obese. The 2000-2001 Canadian Community Health Survey (CCHS) found a similar pattern for males and females.

- Although Aboriginals of both sexes are more likely to be obese than people of other races in Canada, the situation is worse for Aboriginal women. In the 2000 CCHS, 28% of Aboriginal women self-reported as being obese compared to only 22% of Aboriginal males.
As with tobacco use, Ontario is working to reduce obesity. The 2004 Chief Medical Officer of Health Report – Healthy Weights, Healthy Lives, provided data on obesity rates by age and sex, and set out a plan to promote healthy weights. The Ministry of Health Promotion is taking the lead on the Healthy Weights strategy.

Both the tracking of obesity rates and prevention initiatives are relatively new, and it is not possible to assess the impact of prevention programs on women’s health outcomes at this time. The first CSQI reported on obesity across the province, by sex. These data will continue to be monitored in coming years, and should help assess the impact of prevention programs on health outcomes. However, Ontario still lacks standards for measuring and reporting physical activity in the population as a whole or in subgroups, and for measuring healthy body weights in children and seniors.

**Recommendations: Reducing Risk**

Gender differences play a role in both smoking and obesity. Women and men often have different reasons for smoking. Sex also has an impact on weight. In addition, certain subgroups of women are at higher risk for smoking and obesity. This type of information can be used to enhance prevention programs and make them more effective.

**Targeted interventions to prevent smoking and obesity have the potential to reduce the burden of cancer.**

1. The Ministry of Health Promotion, Cancer Care Ontario, public health, and other partners in chronic disease prevention should continue to develop targeted smoking and obesity prevention campaigns and interventions that take into account the impact of factors, such as sex, age, socioeconomic status, and geography.

Smoking prevention and cessation programs targeted to women should:
- Focus particularly on adolescent girls and low income women.

   • Teach women – particularly adolescent girls – to focus on healthy ways to achieve a healthy weight (e.g., increasing physical activity) rather than on being thin and to view a small weight gain as acceptable, given the health benefits of not smoking.

   • Teach women to avoid sensory cues that trigger the desire to smoke.

Obesity prevention programs for women and men should:

   • Acknowledge systemic barriers to healthy body weight and physical activity – particularly for marginalized Canadians (e.g., the poor, Aboriginal people) – such as lack of transportation, lack of education, urban development, the lack of or cost of recreation programs and facilities, and the lack of availability and affordability of healthy foods.

   • Encourage integrated approaches to behaviour change and supportive environments for women across the lifespan.

   • Encourage and enable women to be physically active.

2. The Ministry of Health Promotion, Cancer Care Ontario and other partners should improve the data used to guide smoking and obesity prevention programs by:

   • Gathering socio-demographic information on women who smoke, including information on culture and socioeconomic factors.

   • Establishing standards for measuring and reporting physical activity levels for the general population, women, children and minorities.

   • Establishing standards for measuring healthy body weights for children under 12 and adults over 60.

   • Gathering more demographic information on women who are obese and those who are a healthy weight (e.g., age, culture, socio-economic status, education) in order to understand the factors that affect women’s weight.

   • Researching effective ways to promote physical activity among women.
2. Increasing Survival

The overall goal of the cancer care system is to reduce the burden of cancer and cancer deaths. To determine whether cancer services are improving outcomes for women, this section looks specifically at trends in:

- new cancer cases
- cancer deaths
- cancer survival.

Key Findings: Outcomes of Efforts to Increase Survival

- While the number of women being diagnosed with breast cancer is increasing due to population growth and aging, the rates of breast cancer (i.e., cases per 100,000 women) are not increasing and fewer women are dying of the disease.
- The death rate from all cancers is expected to drop over the next 10 years. Cancer treatments are reducing cancer deaths.
- Cancer survival rates are improving for both men and women, but women are more likely than men to survive certain types of cancer, such as colorectal or lung cancer.

New cancer cases in Ontario women and men

Because of aging, population growth and the process of carcinogenesis (i.e., the years it takes for cancer to develop), the number of women who will be diagnosed with and die from cancer will continue to climb for the next 10 years – despite aggressive prevention programs and higher quality cancer services.

The number of new cases of the four most common cancers (breast, colorectal, lung, and prostate) in Ontario is expected to continue to increase over the next 10 years, but – with the exception of prostate cancer in men – the actual rates of these diseases (i.e., number of cases per 100,000 population) is not expected to rise in either women or men (Figure 16). Ontario’s rates of new cancer cases are similar to national rates for both males and females. This may indicate that efforts to prevent breast, colorectal and lung cancer are having an impact on health outcomes; but there is still room for improvement.

Figure 16: Projected rate of new cancer cases for the four most common types by sex – Ontario projections: 2005, 2010, 2014

Compared to other nations, the age-standardized cancer rate for Canadian women is fairly high, surpassed only by the United States, Scotland and New Zealand.

The age-standardized incidence rate for Ontario women is slightly above that of the rest of the nation, whereas that for Ontario men is slightly below the national rate.

Although more men than women are diagnosed with cancer overall, more women than men aged 20-59 will be diagnosed with cancer this year, and more women aged 30-49 will die from the disease.
Cancer deaths in Ontario men and women

Like new cancer cases, the actual number of cancer deaths is expected to increase for all types of cancer and for both men and women – but the death rate from cancer will actually decrease slightly for both men and women for all cancers (Figure 17). This means that a smaller proportion of people diagnosed with cancer will die of cancer over the next eight years. This indicates that cancer treatments are reducing the number of cancer deaths. Women are also more likely to die from lung cancer than breast cancer.

Figure 17: Projected rate of cancer deaths for the four most types by sex – Ontario projections: 2005, 2010, 2014

Cancer survival in Ontario women and men

Figure 18 compares the five-year relative survival rates for people diagnosed with cancer between 1979 and 1981 with those diagnosed between 1997 and 1999. Over that period, survival rates have improved for all cancers. People diagnosed with cancer in 1999 are more likely to survive for five years than people diagnosed in 1981. The greatest improvements in survival rates are in thyroid, prostate and breast cancers; there has been little improvement in survival rates for people with lung, esophageal or pancreatic cancer.

Figure 18: Improvements in 5-year relative cancer survival by type in Ontario (cases diagnosed 1979-1981 vs. cases diagnosed 1997-1999)

There are no significant regional differences in cancer survival in Ontario, but there are some gender differences. For example, women with colorectal or lung cancer tend to have higher survival rates than men with the same cancers.

These trends – the decrease in cancer death rates and the increase in five-year survival rates – indicate that the cancer services that men and women are receiving are having a positive impact on health outcomes. The relatively minor sex differences in survival tend to favour women.

**Recommendations: Survival Rates**

To improve the impact of prevention and treatment programs on new cases, deaths and survival rates:

1. Cancer Care Ontario should continue to collect information on cancer cases including demographic data on age, culture, socioeconomic status and education to determine whether these factors have an impact on cancer death and survival rates.

2. Because women outlive men, and because a large proportion of the projected new cancer cases are related to aging, Cancer Care Ontario should plan cancer services with the needs of older women in mind.

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### 3. Patient Satisfaction

People with cancer have contact with many providers and services, and their satisfaction with those services is an important outcome of care and indicator of service quality.

**Key Findings: Patient Satisfaction**

- Overall satisfaction with the cancer system is relatively high. Men are generally more satisfied than women with cancer services; however the differences are very small.
- Women appear to be less satisfied with pain management than men.

**Patient satisfaction with cancer services**

According to the recent Hospital Report excerpt on Women's Health in Ontario, women were less likely than men to be satisfied with the hospital care they received.124

Although many studies of hospital patient satisfaction have not found the same variation in patient satisfaction by sex, they have found gender differences for specific aspects of satisfaction. For example:

- Men are more likely to be dissatisfied with wait times, equipment defects, and medical treatment, while women are more likely to be dissatisfied about being treated with a lack of respect and dignity.125

- According to European studies of patients who have had colorectal surgery, women are more likely than men to be dissatisfied with nursing care,126 women are less satisfied with their hospital cancer care experiences, older patients are more satisfied with their experiences, and ethnicity has some impact on patient satisfaction.127
In the 2004, CCO survey of people with cancer treated in outpatient units across Ontario, both men and women reported a high level of satisfaction with their care (Figure 19).

**Figure 19: Average patient satisfaction scores for outpatient cancer care by sex – Ontario, 2004**

Average patient satisfaction scores were all over 75 (on a scale of 0-100). There are only small differences in satisfaction between men and women; however, men reported statistically significantly greater satisfaction than women on measures of caregiver responsiveness, communication, treatment with dignity, and overall impressions. This is consistent with the literature on gender differences in patient satisfaction; however the data do not provide the reasons why people are dissatisfied with their care.

**Patient satisfaction with pain management**

Pain is one of the most common and most feared symptoms for people with cancer. About one-third of people receiving treatment, and two-thirds of those with advanced disease experience pain. Unrelieved pain leads to problems with nausea, breathing, sleeping, loss of appetite and delayed healing, as well as anxiety, depression, fear and stress. Inappropriate pain management affects quality of life.

To assess patient satisfaction with pain management, cancer patients treated in outpatient clinics who were experiencing moderate or severe pain were asked whether they thought staff did everything they could to control their pain or discomfort. As Figure 20 shows, people experiencing severe pain were more likely than those with moderate pain to think that staff could have done more.

**Figure 20: Self-reported pain by patient sex – Ontario “Do you think staff did everything they could to control your pain or discomfort?”**

Source: Ambulatory Oncology Patient Satisfaction Survey, 2004
Among patients with severe pain, women (12.8%) were more likely than men (9.8%) to feel that staff did not do “everything they could” to lessen pain. These data have limitations (e.g., small sample, likely did not include palliative patients) and should be interpreted with caution. However, they indicate a need for improved pain management among women being treated for cancer. On the other hand, it is possible that men are less likely to report poorly managed pain.

**Recommendations: Improve Patient Centred Care**

Routine monitoring of patient satisfaction is essential to improving both the quality of cancer care and outcomes. Part of the strength of the CCO survey is that it includes an analysis by sex and age, and addresses issues that are important to women (i.e., responsiveness, communication, dignity). Measuring patient satisfaction by sex will help identify areas for improvement that are important to men and to women with cancer.

To continue to improve patient satisfaction and provide patient-centred care:

1. **Cancer Care Ontario should:**
   - Explore why men are more satisfied than women with their care.
   - Stratify patient satisfaction results by variables such as socio-economic status, ethnicity, or education.
   - Explore the concerns of people who express dissatisfaction with care, in order to understand the origins of their displeasure.

2. All organizations providing cancer services in Ontario should consider sex and gender differences when collecting data on patient satisfaction, and ensure that interventions are designed to take into account the different needs and perspectives of men and women.

3. **Cancer Care Ontario in conjunction with hospitals and other services providers should analyze the data on patient satisfaction with pain management by sex to:**
   - Track whether the disparity in satisfaction with pain management between men and women is growing or shrinking.
   - Take steps to ensure adequate pain management for all cancer patients.
Ontario currently spends over $2 billion a year on cancer services. To understand the extent to which these resources are being used efficiently, health care policy makers and managers gather information to monitor the relationship between inputs and outputs. It is difficult to identify reliable, useful measures of efficiency. There is often a difficult trade-off between the right decision for an individual patient and the right decision for society as a whole. To have the greatest impact with limited resources, the system must recognize and understand any possible disparities or inequities. For example, to maximize efficiency, it might make sense for a health system to target cervical screening to high-risk populations rather than offer universal access to the whole population.

A small number of studies have considered equity in measuring efficiency. For example: the Health Care Cost and Utilization Project Fact Book on the Care of Women in US Hospitals 2000 compared efficiency measures such as potentially avoidable hospitalizations, average length of stay, and the expected sources of payment for hospitalizations between men and women: women were nearly three times as likely as men to be hospitalized for asthma, and men had twice as many hospital stays for diabetes-related lower extremity amputations than women.

Of the five CSQI system goals, the goal to “increase the effective use of resources” has the fewest indicators. In its first year of reporting, the CSQI measured only two indicators of efficiency: the distribution of in-patient hospital resources by phase of cancer care; and average length of hospital stay following surgery.

**Key Findings: Efficiency of Cancer Services**

- There are no differences between male and female cancer patients in length of hospital stay following surgery.
- More data is required to determine whether there are any gender-related differences in use of in-hospital services.

**Use of Inpatient Hospital Resources**

People with cancer appear to make heavy use of inpatient services at the end of life: this may indicate a need to improve palliative care services. In the future, the data will be analyzed by patient sex and by types of cancer, which will help the system develop benchmarks and targets for appropriate use of inpatient hospital resources.
**Length of Hospital Stay Following Surgery**

A gender-specific analysis of hospital length of stay following surgery showed no differences between male and female cancer patients. The analysis did reveal for all Ontario cancer patients a seemingly appropriate difference in length of stay based on complexity of surgery. That is, across all regions of the province, people who had esophageal and pancreatic cancer surgeries had consistently longer lengths of stay (median stay of approximately 13 days) compared with people who had bowel and lung cancer surgeries (median stay of approximately 1 week). Although there are no established provincial benchmarks or targets for cancer surgeries, each region showed a similar pattern.

**Recommendations**

Health care decision makers and managers need reliable and useful measures of efficiency that consider equity. When systems are working with limited resources, allocation decisions must be based on an understanding of their impact on higher risk and/or more vulnerable populations.

1. To help understand how resources are being used, the CSQI should continue to develop its measures of cancer system efficiency with an eye to stratifying results by sex and other patient demographic variables.

2. To improve decision makers’ ability to identify and understand potential inequities, Cancer Care Ontario should expand the measurement of cancer system efficiency to include other variables in addition to patient sex, such as socio-economic status, income, age, ethnicity and co-morbidities.
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