

March 2011



## Analysis in Brief

# Wait Times in Canada—A Comparison by Province, 2011

Ten years ago, Canada trailed internationally on access to health services, with “long waiting times for the type of care needed” specifically identified.<sup>1</sup> In 2004, first ministers responded to the issue in the *10-Year Plan to Strengthen Health Care*<sup>1</sup> and agreed to reduce wait times for five priority areas: cancer, heart, diagnostic imaging, joint replacement and sight restoration.<sup>2</sup> In the plan, the Canadian Institute for Health Information (CIHI) was asked to assess progress toward this goal. As a result, this is the sixth report providing an overview of wait times, which continue to be the focus of intense media coverage and public debate. While much has been accomplished in 10 years, access is still a challenge. In a recent survey of 11 countries, respondents from Canada were more likely than those in the other countries to list waits to see a doctor or nurse, difficulty getting after-hours care and waits for elective surgery as access challenges.<sup>4</sup>

The first step to reducing wait times is having information to understand waits and monitor trends—information that largely did not exist in 2004. One area of significant progress since the inception of the 10-year plan is information on wait times for surgery. Provinces have collaborated to refine how wait times are measured, building on indicators agreed to by the first ministers in 2005.<sup>5</sup> Together, they have developed a common understanding of how to measure waits and an agreement on which patients should be included in wait time calculations for each procedure. The result of their efforts is three years of more comparable pan-Canadian data for analysis and trending for all priority procedures, except diagnostic imaging, where there is still a gap in the information available.

### Who We Are

Established in 1994, CIHI is an independent, not-for-profit corporation that provides essential information on Canada’s health system and the health of Canadians. Funded by federal, provincial and territorial governments, we are guided by a Board of Directors made up of health leaders across the country.

### Our Vision

To help improve Canada’s health system and the well-being of Canadians by being a leading source of unbiased, credible and comparable information that will enable health leaders to make better-informed decisions.

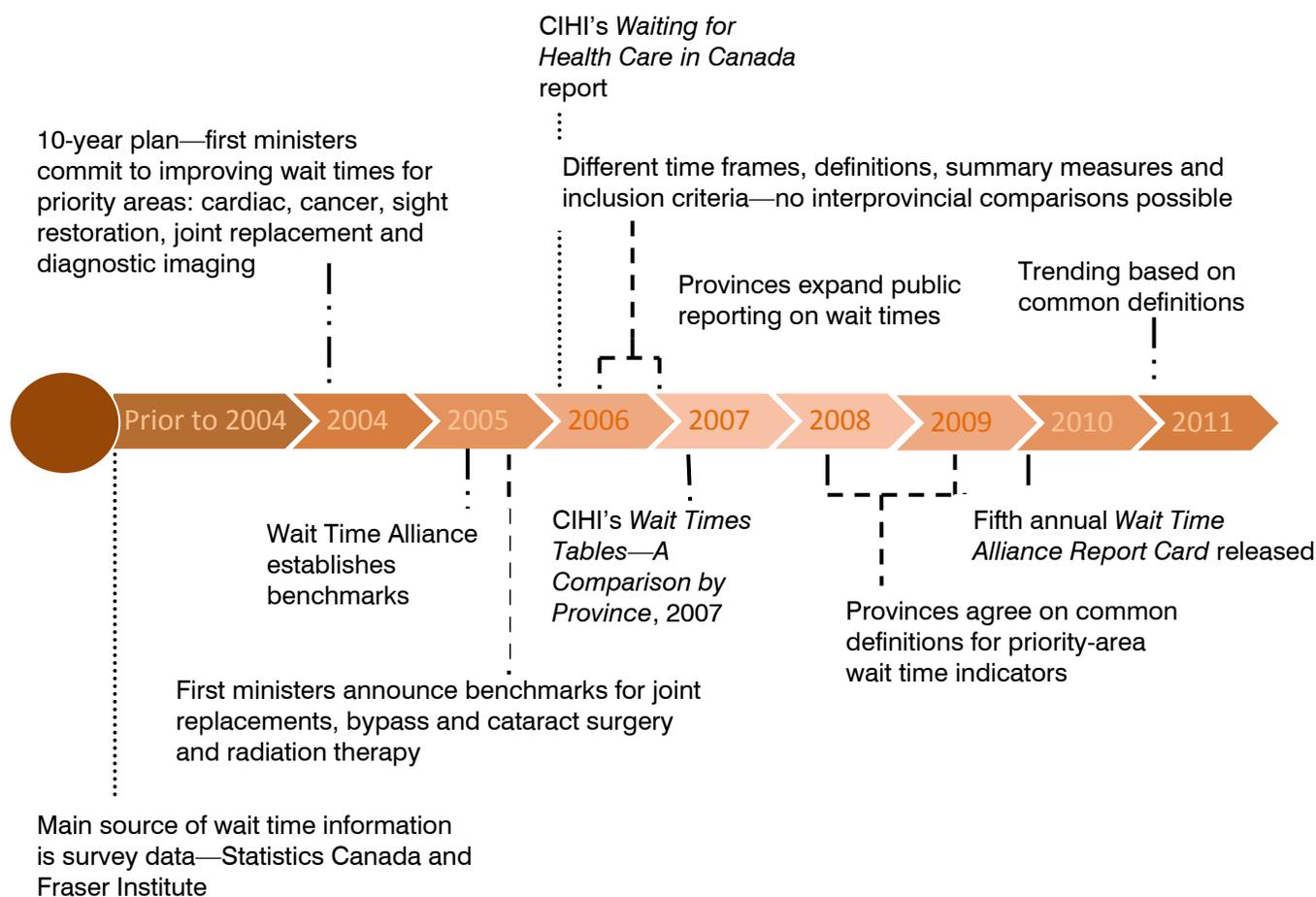
### Federal Identity Program

Production of this report is made possible by financial contributions from Health Canada and provincial and territorial governments. The views expressed herein do not necessarily represent the views of Health Canada or any provincial or territorial government.

i. In the companion agreement, *Asymmetrical Federalism That Respects Quebec’s Jurisdiction*, it was noted that Quebec would apply its own wait time reduction plan, in accordance with the objectives, standards and criteria established by the relevant Quebec authorities.<sup>3</sup>

While there is better information for decision-making for priority procedures, a complete picture of wait times is still developing. The surgical procedures included in this report represent about one-eighth of all those performed in Canada. Wait times for surgery are better understood than many of the other waits that patients may experience when seeking care. For example, before a decision for surgery is made, patients may wait to see a family doctor, to see a specialist, for tests and, finally, for a diagnosis. Following surgery, they may wait for follow-up treatment or services to assist with recovery. To affect meaningful health system change, understanding all the waits across the continuum is necessary. As well, there is still limited data on what patient factors (education and income, geography, underlying health status) and system factors (access to primary health care, system capacity, provider practice patterns) affect wait times and which of these are most amenable to change.

## Evolution of Wait Time Measurement and Reporting



# About This Report

In assessing progress toward reducing waits, there are two important questions:

- What wait can a patient expect for a priority procedure, and is it within a time frame that clinical evidence shows is appropriate?
- Are waits getting shorter or longer?

**What wait can a patient expect for a priority procedure, and is it within a time frame that clinical evidence shows is appropriate?** This report provides three measures of waits for care: the median, 90th percentile and percentage of patients receiving care within benchmark time frames.<sup>6</sup> These measures help to frame expectations of what the wait times are and whether the wait will be longer than is clinically appropriate. To the extent possible, provinces provided this information according to the agreed-upon definitions for each indicator. Where differences exist that are material to the reported wait, they are noted.

Meeting the agreed-upon definitions is harder for some parts of the country than others, as each province's information system has different levels of flexibility for collecting and reporting data. That said, provinces have agreed to move toward the common indicator definitions as wait time registries are redeveloped and evolve. For some priority areas, such as joint replacements and cataract surgery, most provinces are close to matching the common definitions. Differences in reported waits for these areas are increasingly likely to reflect real differences in wait times across provinces.

For other priority areas, such as radiation therapy, provinces encountered challenges using the common definitions, and it is less clear whether differences in reported wait times are related to variations in definitions or to real differences in waits. Information from the territories is not included, as most patients must travel to other jurisdictions for major surgery or more complex care.

Information on waits for magnetic resonance imaging (MRI) and computed tomography (CT) scans is the least developed of the five priority areas, with only half of provinces reporting. There are many challenges in collecting this data, including the high volume of tests and their multiple locations outside of the hospital system. Appropriateness, although identified as an issue for these procedures, is not well understood, and there are no pan-Canadian benchmarks for MRI and CT scans (although some provinces have set their own).

**Are waits getting shorter or longer?** The 10-year plan recognized that provinces were starting from different places. Despite best efforts, several provinces have waits that still exceed benchmark levels. In these situations a second question is important: are waits getting shorter or longer? The answer to this question can be determined by looking at either the three-year trends in wait times<sup>ii</sup> or at changes in the percentage of patients receiving surgery within benchmark time frames.<sup>iii</sup> Understanding trends is most important in priority areas where many patients are waiting longer than the benchmark for their care, as this demonstrates progress toward the goal. Downward trends for waits within or near benchmark time frames are less critical—of concern would be an upward trend. It is also harder to achieve a significant change if wait times are already at the benchmark. Decreases in waits will result in more patients receiving treatment within the benchmark, another indicator of whether waits are getting shorter or longer.

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ii. Trends were analyzed by procedure for most jurisdictions that provided wait time information according to agreed-upon definitions over a three-year period (2008 to 2010). Trends were assigned for provinces that demonstrated at least a 10% change (up or down) in reported waits from the first to the last year of trending. Wait times were considered unchanged with any difference of less than 10%.

iii. Trends were analyzed by procedure for most jurisdictions that provided wait time information according to agreed-upon definitions over a three-year period (2008 to 2010). Trends in the percentage of patients receiving care within benchmark time frames were assigned for provinces that demonstrated at least a 10 percentage point change (up or down) from the first to the last year of trending. Wait times were considered unchanged with any difference of less than 10 percentage points.

# New for 2011

## Visual Format

With progress toward more comparable measures and multiple years of data for trending, it is now possible to present wait time data in a visual format using graphs (see pages 13 to 35). To view the data used to create each graph, click on the graph in the report at [www.cihi.ca](http://www.cihi.ca).

## Pan-Canadian Picture of Patients Treated Within Benchmark Wait Times

New to the report this year is an all-Canada estimate of the percentage of patients receiving care within the benchmarks set for hip and knee replacements, hip fracture repair, cataract surgery, coronary artery bypass graft (bypass) surgery and radiation therapy. This number is helpful as it broadly captures the proportion of Canadians who receive care within the time frame that clinical evidence shows is appropriate for a particular procedure (see Figure 1). In December 2005, health ministers issued the following wait time benchmarks:

- Hip replacements within 26 weeks;
- Knee replacements within 26 weeks;
- Surgical repair of hip fracture within 48 hours;
- Surgery to remove cataracts within 16 weeks for patients who are at high risk;
- Cardiac bypass surgery within 2 to 26 weeks, depending on how urgently care is required; and
- Radiation therapy to treat cancer within four weeks of patients being ready to treat.

There are no pan-Canadian benchmarks for CT and MRI scans.

## Improved Wait Time Trending

As of 2010, there are three years of comparable data for most procedures. As a result, it is possible to analyze trends for the proportion of patients who received treatment within benchmark time frames. Trends were assigned when at least a 10 percentage point change (up or down) was noted in the proportion of hip, knee, cataract and radiation therapy patients receiving treatment within benchmark time frames (see Table 1). More detailed supporting data can be found in Appendix A on page 37. Trending the number of patients receiving hip fracture surgery within the benchmark will be possible in 2012, when three years of comparable data are compiled. Assigning trends for the proportion of bypass patients receiving surgery within a 26-week benchmark regardless of urgency levels was not meaningful (see next section for more details). As a result, bypass trends are not included in Table 1.

## Reporting the Cardiac Bypass Benchmark Within 26 Weeks

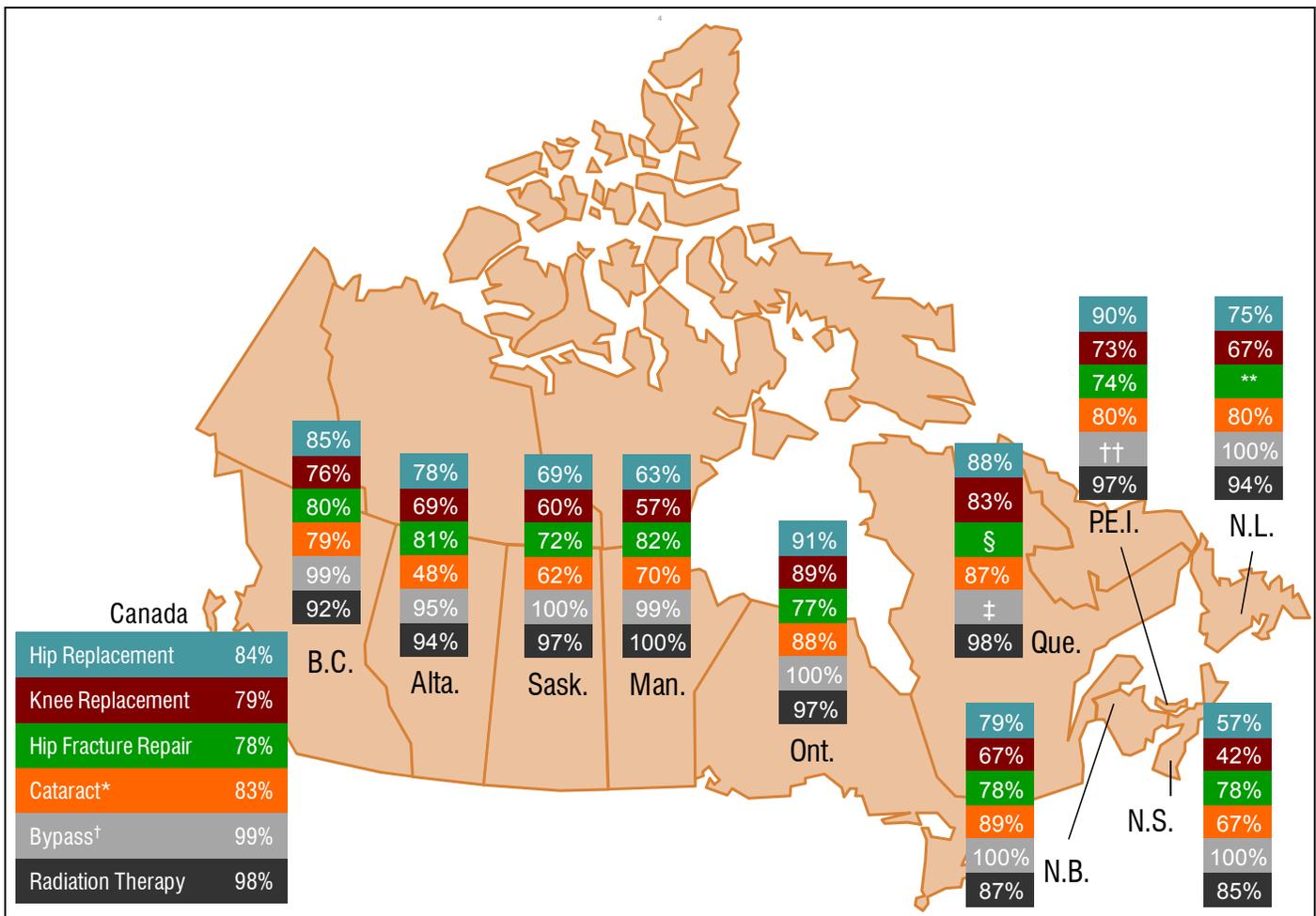
First ministers identified three urgency levels for patients waiting for bypass surgery and established a benchmark time frame for each level. CIHI's 2010 report attempted to report waits for these three urgency, or priority, levels (both terms are used to describe levels of care associated with specific time frames). However, comparisons across provinces were not possible due to significant differences in how urgency levels were assigned. Further exploration of how urgency levels are applied must be undertaken before cardiac data can be reported by priority level. In the meantime, wait times for all bypass patients have been combined, and the percentage of patients (regardless of urgency level) receiving care within the benchmark has been calculated using the longest time frame of 26 weeks. Some clinicians have expressed concern that applying a benchmark of 26 weeks (182 days) for all bypass surgery patients, regardless of priority level, presents a more favourable picture of wait times than would otherwise be seen. A way forward will require the engagement and collaboration of provinces and clinicians.

# Overview of Wait Times Across Canada

What does the wait time picture look like across the country? To answer this question, the median, 90th percentile and proportion of patients who received care within pan-Canadian benchmarks were examined for all priority-area procedures. All provinces are now able to report against benchmarks for radiation treatment for cancer, bypass, hip and knee replacements and cataract procedures, while CIHI provided data on waits for hip fracture surgery. There are no pan-Canadian benchmarks for MRI and CT scans, although more provinces (five) are reporting waits for this priority area than in the past. Key findings include the following:

- **Eight out of 10 patients across Canada received priority procedures within benchmarks.** In 2010–2011, hospitals performed about 400,000 surgical procedures across the priority areas: hip and knee replacements, hip fracture repairs, bypass procedures and cataracts. Similar proportions of Canadians received cataract (83%) and hip replacement (84%) procedures within their respective benchmark time frames. Knee replacements and hip fracture repairs were slightly lower, at 79% and 78%, respectively. Almost all patients across the country received radiation treatments (98%) within the clinically appropriate time frame, and 99% of bypass patients received treatment within six months, although data limitations prevent an accurate assessment of the number of bypass patients receiving treatment within recommended time frames by priority level. See Figure 1.

Figure 1: Percentage of Patients Receiving Care Within Benchmarks by Province, 2010



- Notes**
- There are no pan-Canadian benchmarks for MRI and CT scans.
  - \* The pan-Canadian benchmark specifies cataract surgery within 16 weeks (112 days) for patients who are at high risk.<sup>6</sup> There is not yet consensus on a definition of “high risk,” so the benchmark is applied across all priority levels.
  - † The pan-Canadian benchmark specifies bypass surgery within 2 to 26 weeks (14 to 182 days), depending on how urgently care is needed.<sup>6</sup> There is not yet consensus on definitions for urgency levels, so the benchmark is applied across all priority levels.
  - ‡ Quebec reports the percentage of bypass patients receiving care within the benchmark for their assigned urgency level.
  - § Quebec wait times for hip fracture repair are not included due to methodological differences in the data. For information on Quebec hip fracture wait times, see CIHI’s upcoming release, *Comparing Wait Times for Hip Fracture Repair in Quebec With Those in Other Jurisdictions*.
  - \*\* Newfoundland and Labrador reports waits for hip fracture repair starting from registration in the emergency department. See page 19 for more information.
  - †† P.E.I. does not offer cardiac services; patients receive care out of province.

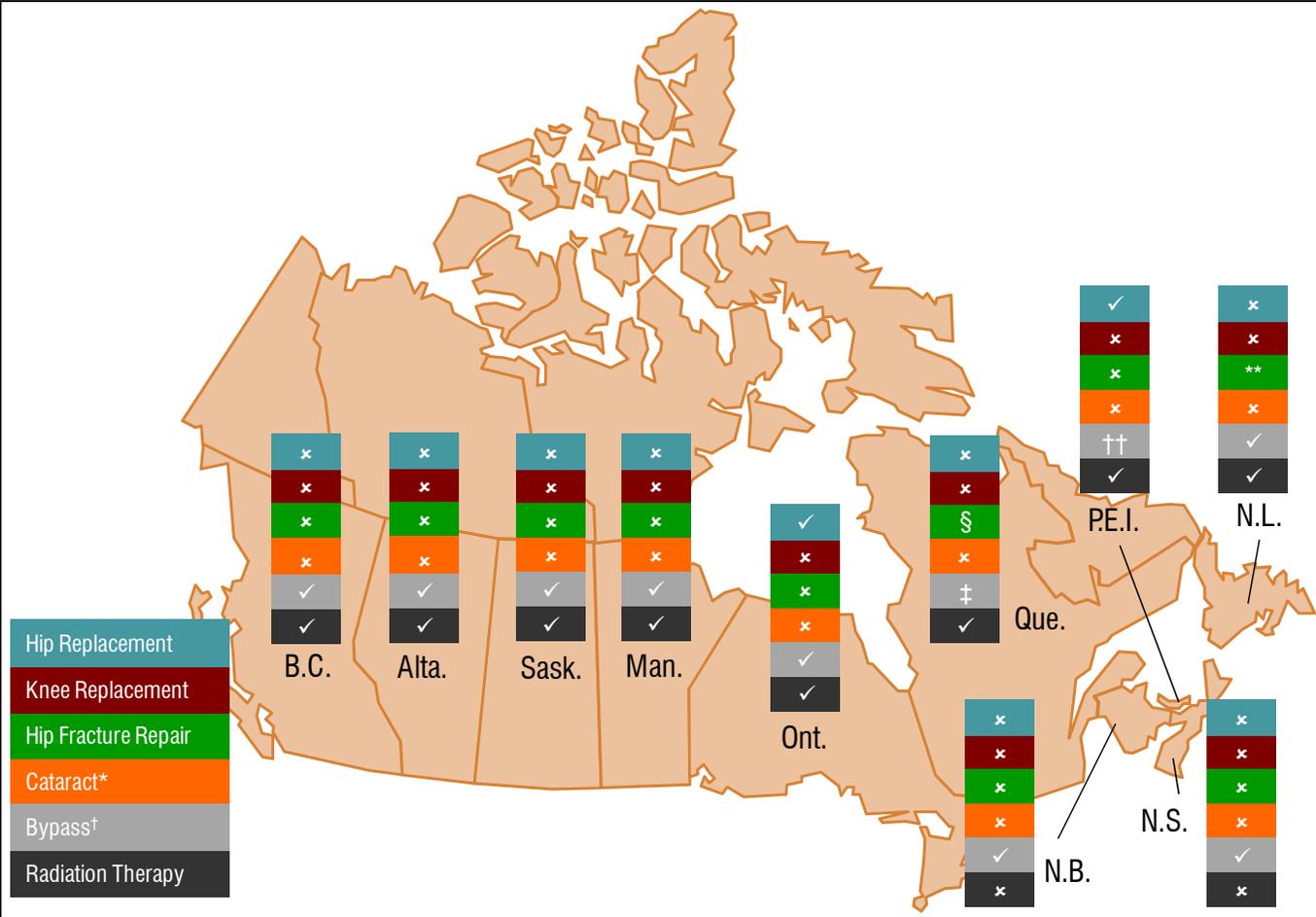
- **The extent to which priority-area benchmarks are achieved varies across the country.** Provinces continue to work toward the goal of providing priority procedures within benchmark time frames. Figure 2 shows the priority procedures for which 90% of patients received care within the benchmark. Most provinces completed 90% or more of bypass surgery (P.E.I. does not provide cardiac surgery) and radiation therapy treatments within the benchmarks of 182 and 28 days, respectively. On the other hand, no province achieved the 90% threshold for hip fracture repairs or knee replacements within benchmark time frames (48 hours and 182 days, respectively).

Looking at a lower threshold (75%) is helpful in understanding how close provinces are to achieving the ultimate goal of treating patients within benchmark time frames. Figure 3 shows two provinces (Ontario and British Columbia) achieved the 75% threshold across all priority areas. That said, only three provinces (Ontario, British Columbia and Quebec) completed 75% or more of knee replacements within the benchmark time frame.

## ***Should All Patients Expect to Receive Treatment Within Benchmark Time Frames?***

Benchmarks are defined as “evidence-based goals that each province and territory will strive to meet, while balancing other priorities aimed at providing quality care to Canadians. [They] express the amount of time that clinical evidence shows is appropriate to wait for a procedure.”<sup>6</sup> While in an ideal world all patients would receive treatment within these prescribed time frames, expecting 100% of patients to receive treatment within benchmarks is not practical for a number of reasons. For example, some patients may experience other illnesses or complications while waiting, making it temporarily inappropriate for them to receive surgery and extending the reported wait. Registry systems may not be sophisticated enough to adjust for this temporary delay. The same situation may occur when patients postpone surgery for personal reasons, such as waiting for a family member to assist with post-surgical convalescence or teachers waiting to have a procedure during their summer hiatus. As well, wait time registries require continuous management to ensure that only appropriate patients are waiting. There may be a time lag in removing patients who are palliative or have died, resulting in reported waits that are longer than the benchmark. On the other hand, unavoidable delays from the system side, such as cancelled elective procedures due to a lack of available beds or physician illness, can increase waits for some patients beyond acceptable time frames. These examples illustrate some of the reasons why providing all care within expected time frames may not be achievable or practical. Thus, providing care to 90% of patients within the benchmark may be a reasonable target.

Figure 2: Provinces Completing at Least 90% of Procedures Within Benchmarks, 2010



**Legend**

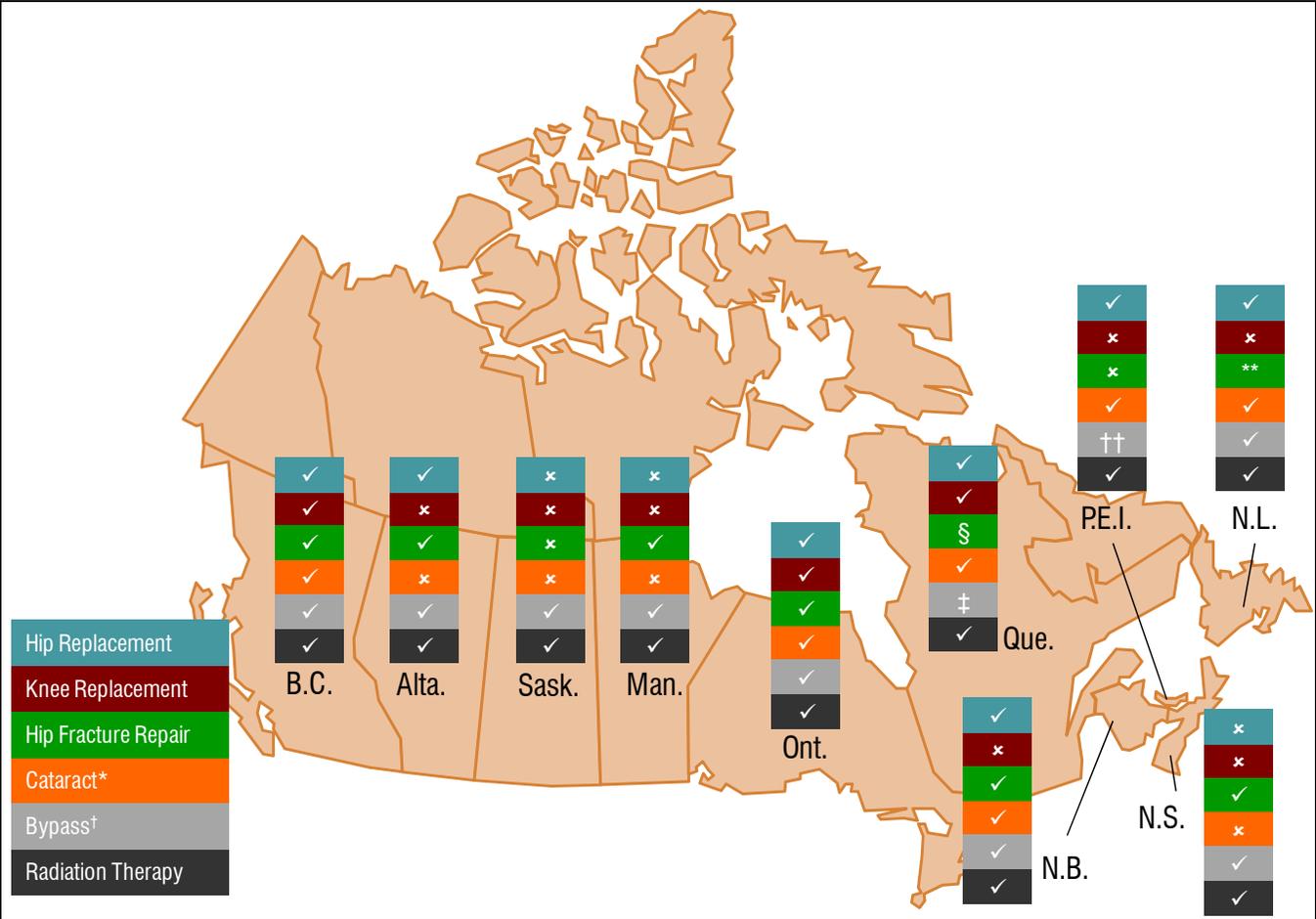
- ✓ At least 90% of patients received treatment within the benchmark.
- x Less than 90% of patients received treatment within the benchmark.

**Notes**

There are no pan-Canadian benchmarks for MRI and CT scans.

- \* The pan-Canadian benchmark specifies cataract surgery within 16 weeks (112 days) for patients who are at high risk.<sup>6</sup> There is not yet consensus on a definition of “high risk,” so the benchmark is applied across all priority levels.
- † The pan-Canadian benchmark specifies bypass surgery within 2 to 26 weeks (14 to 182 days), depending on how urgently care is needed.<sup>6</sup> There is not yet consensus on definitions for urgency levels, so the benchmark is applied across all priority levels.
- ‡ Quebec reports the percentage of bypass patients receiving care within the benchmark for their assigned urgency level.
- § Quebec wait times for hip fracture repair are not included due to methodological differences in the data. For information on Quebec hip fracture wait times, see CIHI’s upcoming release, *Comparing Wait Times for Hip Fracture Repair in Quebec With Those in Other Jurisdictions*.
- \*\* Newfoundland and Labrador reports waits for hip fracture repair starting from registration in the emergency department. See page 19 for more information.
- †† P.E.I. does not offer cardiac services; patients receive care out of province.

Figure 3: Provinces Completing at Least 75% of Procedures Within Benchmarks, 2010



**Legend**

- ✓ At least 75% of patients received treatment within the benchmark.
- ✗ Less than 75% of patients received treatment within the benchmark.

**Notes**

There are no pan-Canadian benchmarks for MRI and CT scans.

- \* The pan-Canadian benchmark specifies cataract surgery within 16 weeks (112 days) for patients who are at high risk.<sup>6</sup> There is not yet consensus on a definition of “high risk,” so the benchmark is applied across all priority levels.
- † The pan-Canadian benchmark specifies bypass surgery within 2 to 26 weeks (14 to 182 days), depending on how urgently care is needed.<sup>6</sup> There is not yet consensus on definitions for urgency levels, so the benchmark is applied across all priority levels.
- ‡ Quebec reports the percentage of bypass patients receiving care within the benchmark for their assigned urgency level.
- § Quebec wait times for hip fracture repair are not included due to methodological differences in the data. For information on Quebec hip fracture wait times, see CIHI’s upcoming release, *Comparing Wait Times for Hip Fracture Repair in Quebec With Those in Other Jurisdictions*.
- \*\* Newfoundland and Labrador reports waits for hip fracture repair starting from registration in the emergency department. See page 19 for more information.
- †† P.E.I. does not offer cardiac services; patients receive care out of province.

## Wait Times by Priority Procedure

- **There were improvements in the number of patients receiving hip and cataract surgery within benchmarks, although there was wide variation across provinces.** The benchmark for both hip and knee replacements is 182 days (26 weeks), while it is 112 days (16 weeks) for cataract surgery. The likelihood of receiving treatment within this time frame varies considerably, depending on where one lives in Canada. The proportion of patients receiving surgery within the recommended benchmark varied from 57% to 91% for hip replacements, from 42% to 89% for knee replacements and from 48% to 89% for cataract surgery. That said, there were improvements in the proportions of patients receiving hip replacement and cataract surgery within benchmarks for some provinces over the past three years. See Figure 1 and Table 1.
- **The variation among provinces in hip fracture repair and radiation therapy waits is small compared with that for joints and cataracts.** Most patients (85% to 100%) received radiation treatment within 28 days of being ready to receive care. This is unchanged from a year ago. Provinces performed between 72% and 82% of hip fracture repairs within 48 hours of a patient's admission to hospital (see Figure 1). Across Canada,<sup>iv</sup> 78% of patients received hip fracture surgery within the benchmark. With the availability of new data identifying time of surgery in 2009–2010, a more precise calculation of patient waits for hip fracture repair, measured in hours rather than days, was initiated. As a result, trending for waits for hip fracture surgery will start in 2012, once three years of data are available.
- **There were few improvements in the proportions of patients receiving knee replacements within benchmarks.** In seven provinces, fewer than three-quarters of patients received knee replacement surgery within the benchmark of 182 days. Over three years, seven of nine provinces showed no change or a decrease in the percentage of patients who received knee surgery within the benchmark time frame. A trend is at least a 10 percentage point increase or decrease from 2008 in the proportion of patients receiving care within the benchmark.

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iv. Excluding Quebec. For information on Quebec hip fracture wait times, see CIHI's upcoming release, *Comparing Wait Times for Hip Fracture Repair in Quebec With Those in Other Jurisdictions*.

**Table 1: Trending for the Proportion of Patients Receiving Joint Replacements, Cataract Surgery and Radiation Therapy Within Benchmarks, 2008 to 2010**

	Hip Replacements	Knee Replacements	Cataract Surgery	Radiation Therapy
B.C.	---	---	---	★---
Alta.	---	---	▼	
Sask.*	▲	▲	▲	★▲
Man.	▼	▼	---	★---
Ont.	★---	---	---	★---
Que.*	★---	---	---	
N.B.*	▲	▲	▲	---
N.S.*	▲	---	---	
P.E.I.	★▲	---	▲	★---
N.L.				★---

**Legend**

- ▲ At least a 10 percentage point increase in the proportion of patients receiving care within the benchmark.
- ▼ At least a 10 percentage point decrease in the proportion of patients receiving care within the benchmark.
- ★ Achieved 90% or greater within the benchmark.
- No change in achievement within the benchmark.
- Three years of comparable data are not available.

**Notes**

A trend is at least a 10 percentage point increase or decrease in the proportion of patients receiving care within the benchmark from the first year (2008). The proportion was considered unchanged with any difference of less than 10 percentage points. See Appendix A for more details on wait time trends. Trending for waits for hip fracture surgery will start in 2012. Assigning trends for the proportion of bypass patients receiving surgery within a 26-week benchmark, regardless of urgency level, was not meaningful (see below for more details). As a result, bypass trends are not included in Table 1.

Some provinces may have made big gains in wait times prior to 2008, which will not be reflected in the trending displayed in Table 1.

\* As of 2011, Nova Scotia, New Brunswick, Quebec and Saskatchewan were able to provide new data that aligns with the indicator definition for cataract surgery (see page 23). As a result, the new data has been used in place of previously submitted data for the purposes of trending in this report.

- **While the overall proportion of Canadians receiving cataract surgery within benchmarks is high, a few provinces struggle to provide care within the recommended time frame.** The pan-Canadian benchmark specifies surgery within 16 weeks (112 days) for patients who are at high risk.<sup>6</sup> There is not yet consensus on a definition of “high risk,” so the benchmark is applied across all priority levels. Three of nine provinces reported improvements in the proportion of patients receiving treatment within the benchmark, while others had waits that remained unchanged or that increased over the past three years. See Figure 1 and Table 1.

- **Most patients continue to receive care within benchmarks for bypass surgery, but the picture may be too favourable.** At least 95% of patients received bypass surgery within benchmarks in all nine provinces reporting these waits (P.E.I. does not perform cardiac surgery within the province). Wait times for all bypass patients have been combined, with the benchmark of 26 weeks (182 days) applied to all (excluding emergency cases), because there is no consistency in how the urgency levels are applied across jurisdictions. Applying a benchmark of 26 weeks for all bypass surgery, regardless of priority level, presents a more favourable picture of wait times than would otherwise be seen. A further challenge is that clinicians do not support a 26-week benchmark for providing care to all cardiac bypass patients.
- **Reporting for diagnostic imaging scans is more limited than for other priority areas.** In the five provinces providing MRI scan information (up from three provinces last year), waits for half of all patients ranged from 31 to 77 days. Waits were longer for an MRI scan than for a CT scan—the typical patient (50th percentile) waited between 7 and 22 days for a CT scan. This is a priority area where no pan-Canadian benchmarks have been developed (see the figures in parts G and H and Table A2).

## Conclusion

Although there is still much we don't know, today the picture of wait times across priority areas and provinces is more complete and comparable than in the past. All-Canada estimates indicate that 8 out of 10 patients across the country receive priority procedures (hip, knee, hip fracture repair, cataract and bypass surgery and radiation treatment) within the time frames that clinical evidence shows is appropriate. That said, the likelihood of receiving treatment within these time frames varies considerably, depending on both the priority area and where one lives in Canada. While there have been some improvements in wait times for priority area procedures over the last three years, these improvements are not being seen consistently across all procedures or across all provinces. The ability to report these important findings has been enabled by provincial collaboration on measuring and collecting data. Important steps remain in improving consistency of cardiac urgency levels, as well as building more comprehensive diagnostic imaging data before the wait time information can be assessed in a more meaningful way.

# Part A: Wait Time for a Planned Hip Replacement

**Definition:** The number of days a patient waited, from the booking date to the date the patient received a planned total hip replacement

**Benchmark:** Within 26 weeks (182 days)

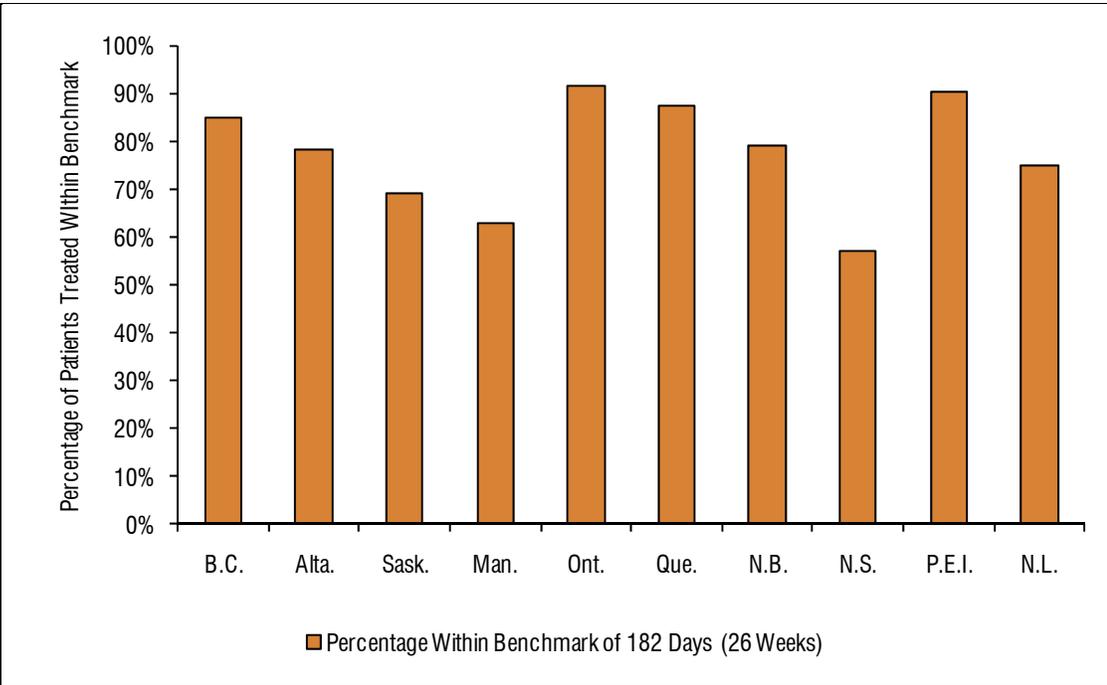
**Time Frame:** April 1 to September 30, 2010

**Population:**

- Age 18 and older
- Includes all total hip replacements (primary and revision); bilateral joint replacements count as a single wait
- Includes all priority levels
- Excludes emergency cases
- Excludes elective partial hip replacements and hip resurfacing techniques
- Excludes days when patient was unavailable

Exceptions to the Definition and Population for a Planned Hip Replacement	
<b>Alta.</b>	Includes elective partial hip replacements and resurfacing techniques
<b>Sask.</b>	Includes elective partial hip replacements and resurfacing techniques
<b>Ont.</b>	Includes elective partial hip replacements and hip resurfacing techniques
<b>P.E.I.</b>	Includes days when patient was unavailable
<b>N.L.</b>	Excludes revisions

**Figure 1A: Percentage of Patients Receiving a Planned Hip Replacement Within Benchmark, April 1 to September 30, 2010**



**Figure 2A: Median and 90th Percentile Wait Times for Planned Hip Replacements, April 1 to September 30, 2010**

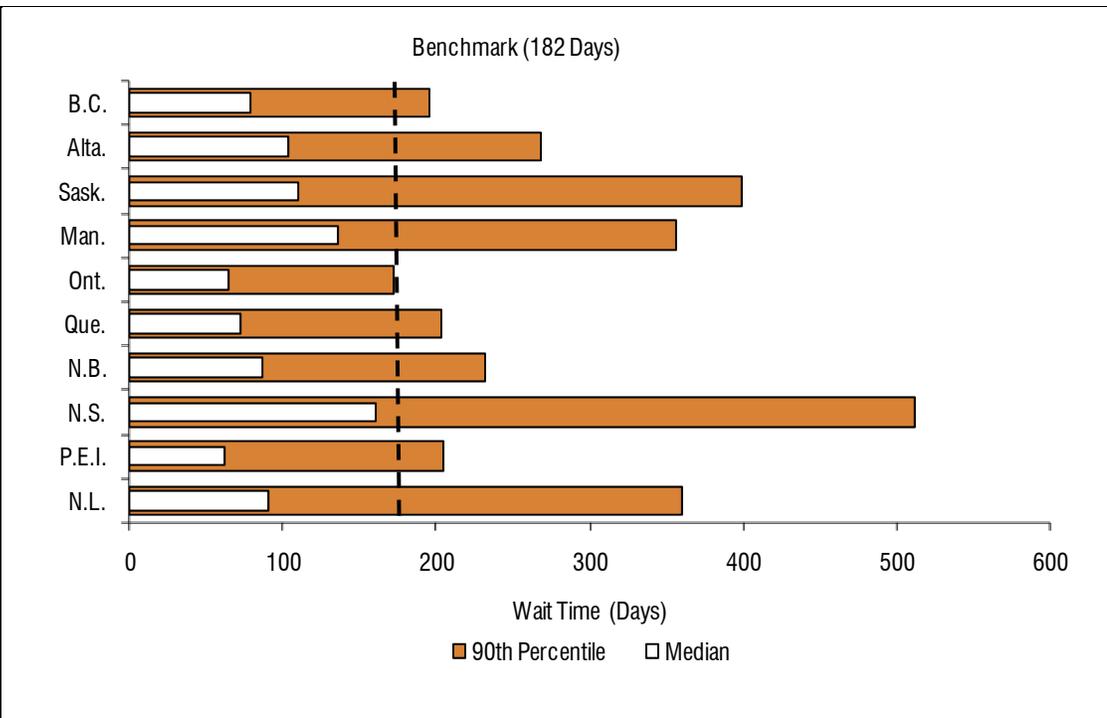
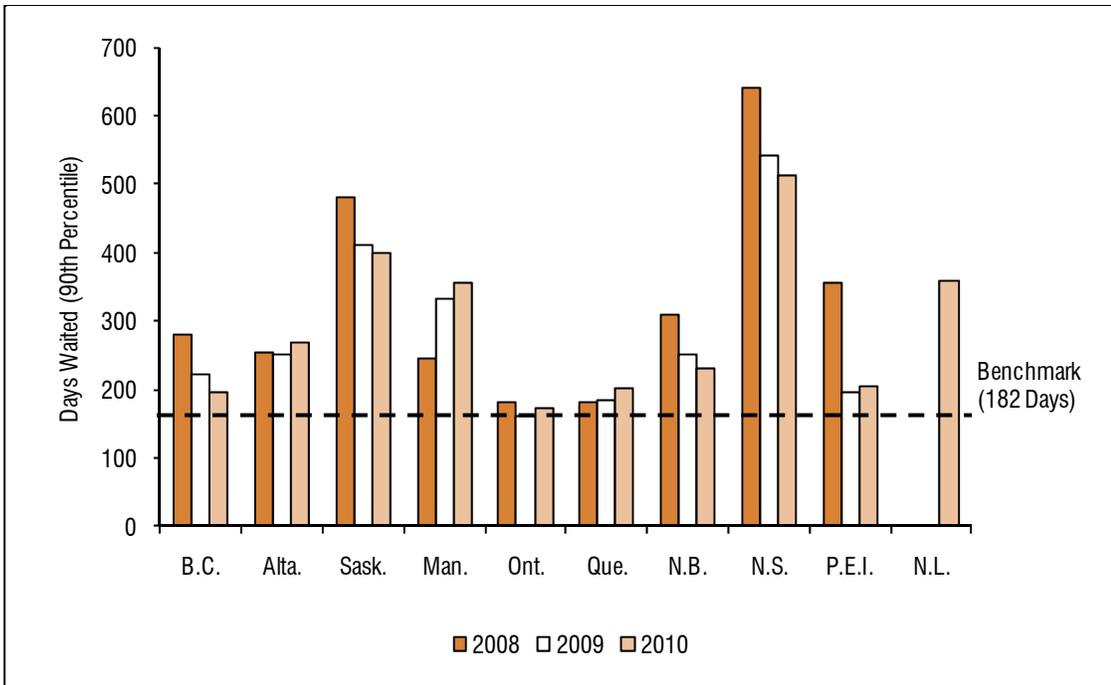


Figure 3A: Wait Times for the 90th Percentile for Planned Hip Replacements, 2008 to 2010



## Part B: Wait Time for a Planned Knee Replacement

**Definition:** The number of days a patient waited, from the booking date to the date the patient received a planned total knee replacement

**Benchmark:** Within 26 weeks (182 days)

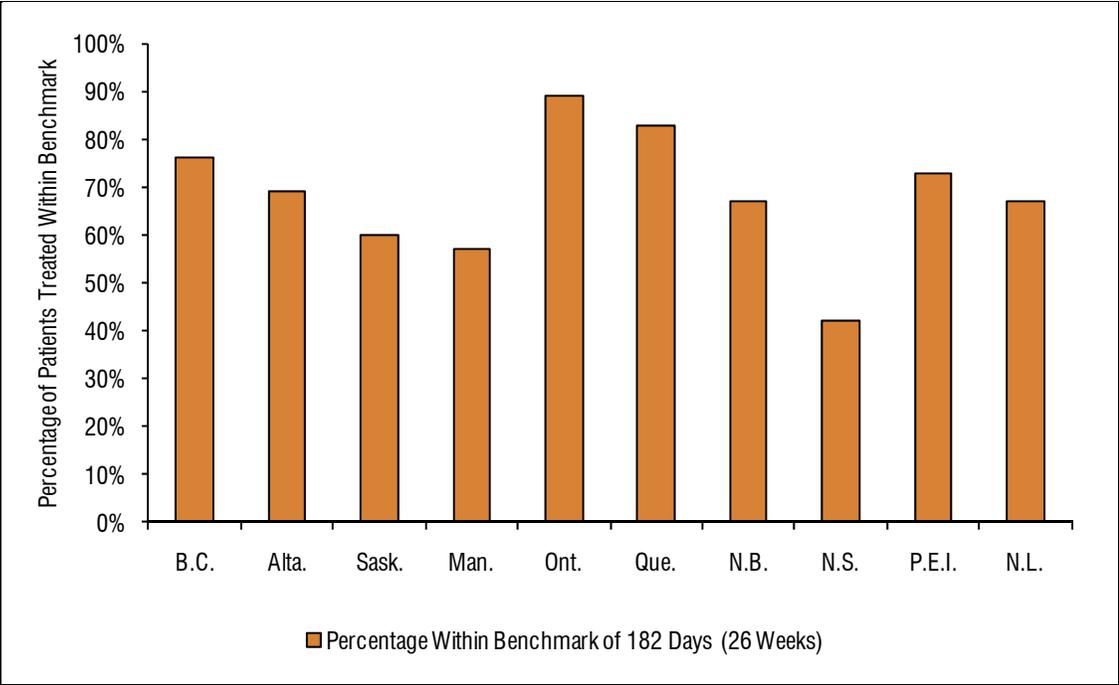
**Time Frame:** April 1 to September 30, 2010

**Population:**

- Age 18 and older
- Includes all total knee joint replacements (primary and revision); bilateral joint replacements count as a single wait
- Includes all priority levels
- Excludes emergency cases
- Excludes knee resurfacing techniques
- Excludes days when patient was unavailable

Exceptions to the Definition and Population for a Planned Knee Replacement	
<b>P.E.I.</b>	Includes days when patient was unavailable
<b>N.L.</b>	Excludes revisions

**Figure 1B: Percentage of Patients Receiving a Planned Knee Replacement Within Benchmark, April 1 to September 30, 2010**



**Figure 2B: Median and 90th Percentile Wait Times for Planned Knee Replacements, April 1 to September 30, 2010**

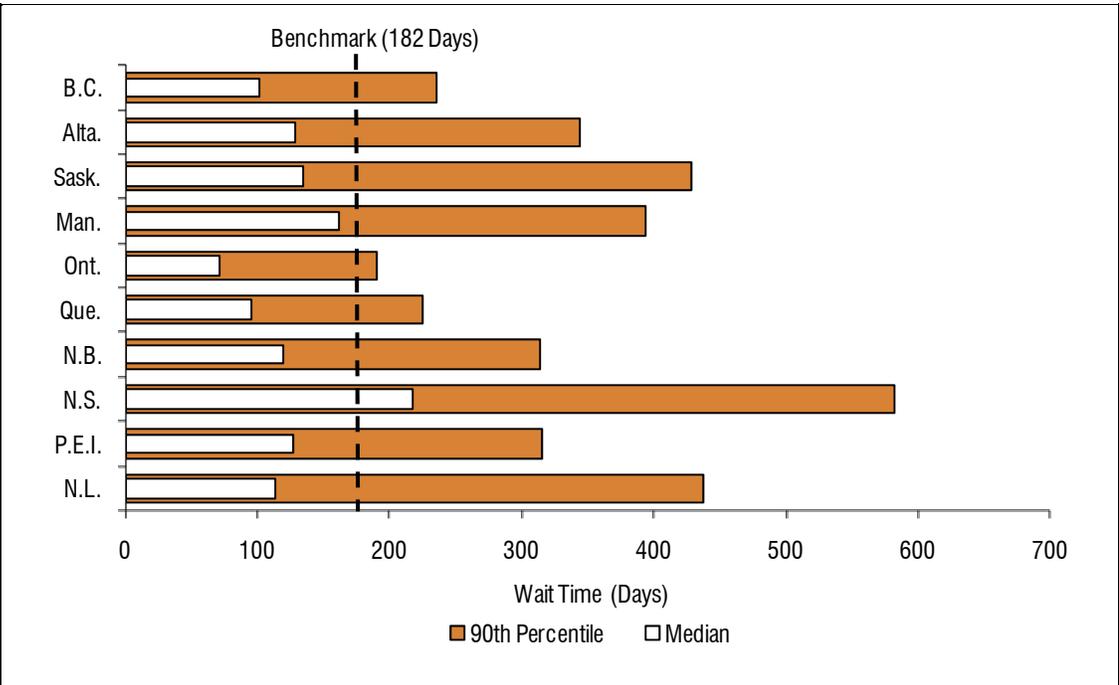
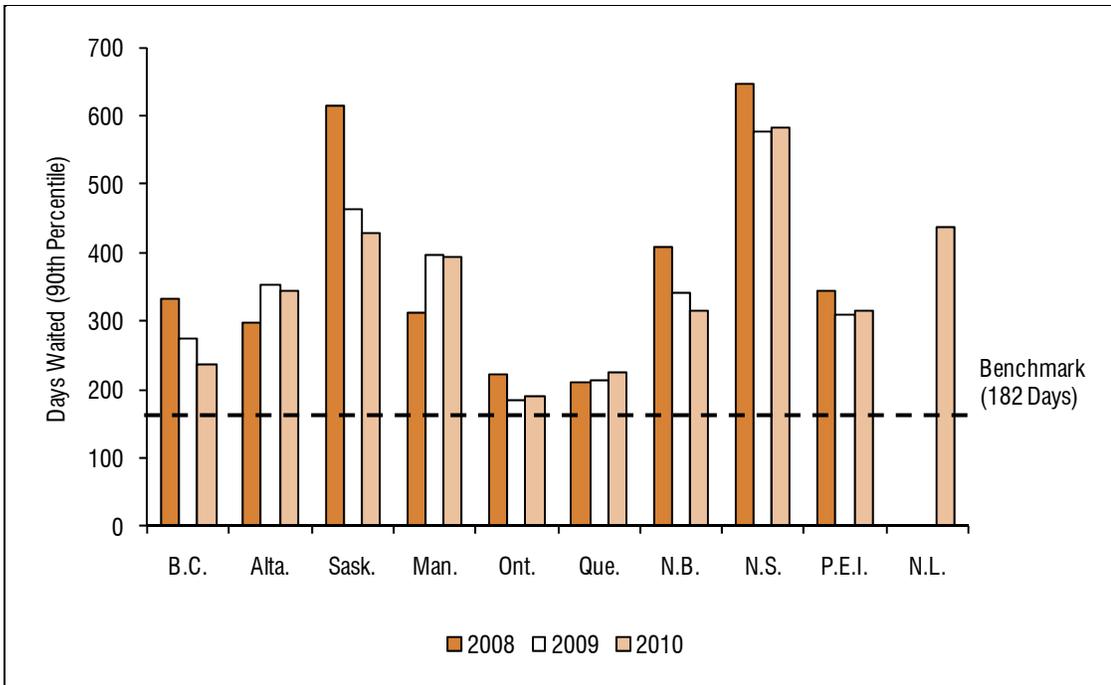


Figure 3B: Wait Times for the 90th Percentile for Planned Knee Replacements, 2008 to 2010



## Part C: Wait Time for Hip Fracture Repair

**Definition:** The number of hours the patient waited, from the time of first inpatient admission with a hip fracture (index admission) to the time the patient received hip fracture repair surgery

**Benchmark:** Within 48 hours

**Time Frame:** April 1 to September 30, 2010

**Population:**

- Age 18 and older
- Excludes in-hospital hip fractures
- Excludes cases with no hip fracture surgery following a hip fracture in the same year

**Notes**

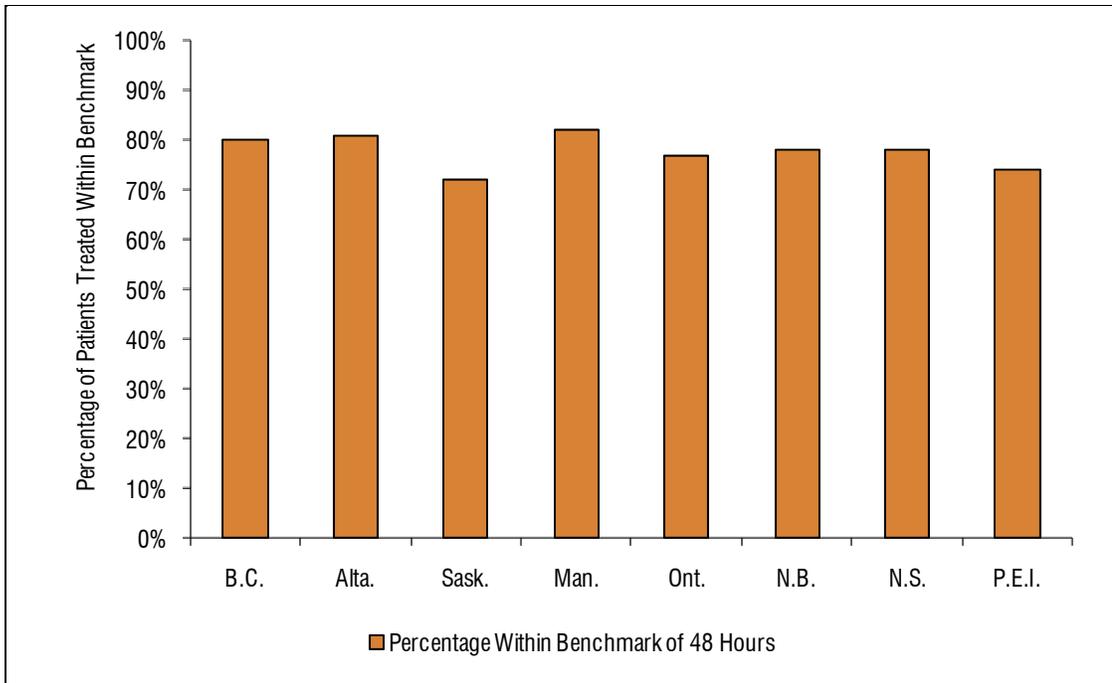
The hip fracture analysis uses open-year data from the first two quarters of 2010–2011, and may not contain complete provincial submissions to CIHI. At the time of analysis, CIHI had received 97% of expected abstracts for this period. While pan-Canadian completeness is high, there may be distinct analytic impacts for provinces with slower submissions to CIHI. Additionally, open-year data may not have been subjected to the full cycle of quality validation, by both CIHI and the submitting facilities. Hospitals may still add, delete or correct records. See Appendix B for detailed inclusions and exclusions.

Quebec wait times for hip fracture repair are not included due to methodological differences in the data. For information on Quebec hip fracture wait times, see CIHI's upcoming release, *Comparing Wait Times for Hip Fracture Repair in Quebec With Those in Other Jurisdictions*.

**Source**

Discharge Abstract Database, 2010–2011, Canadian Institute for Health Information.

**Figure 1C: Percentage of Patients Receiving Hip Fracture Repair Surgery Within Benchmark, April 1 to September 30, 2010**



**Figure 2C: Median and 90th Percentile Wait Times for Hip Fracture Repair, April 1 to September 30, 2010**

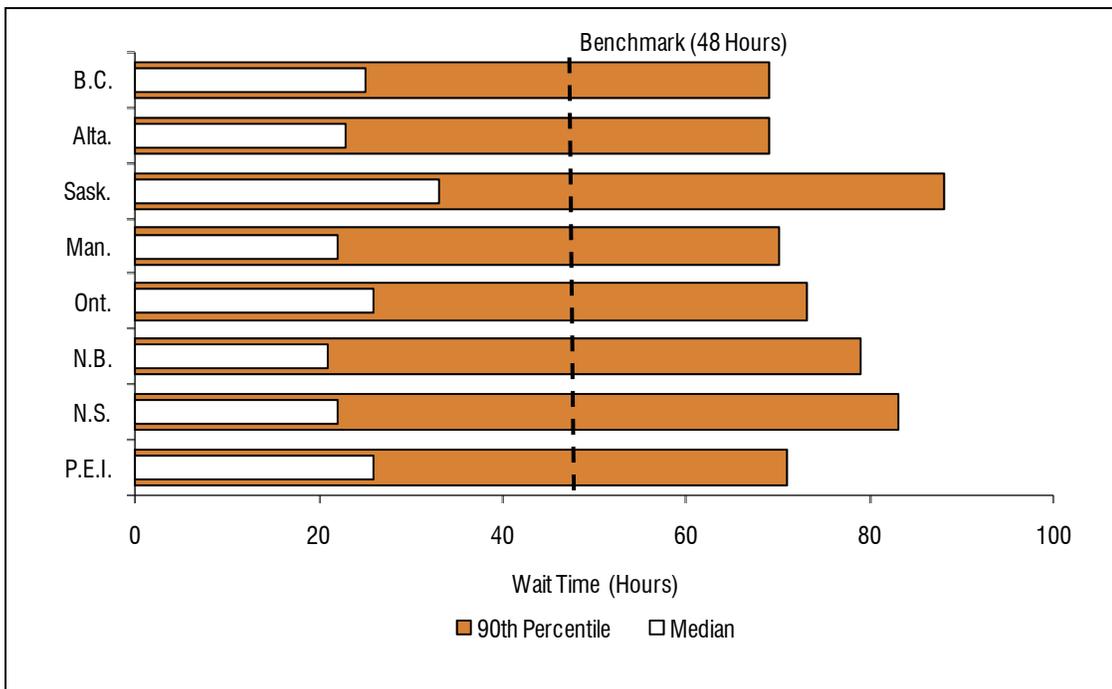
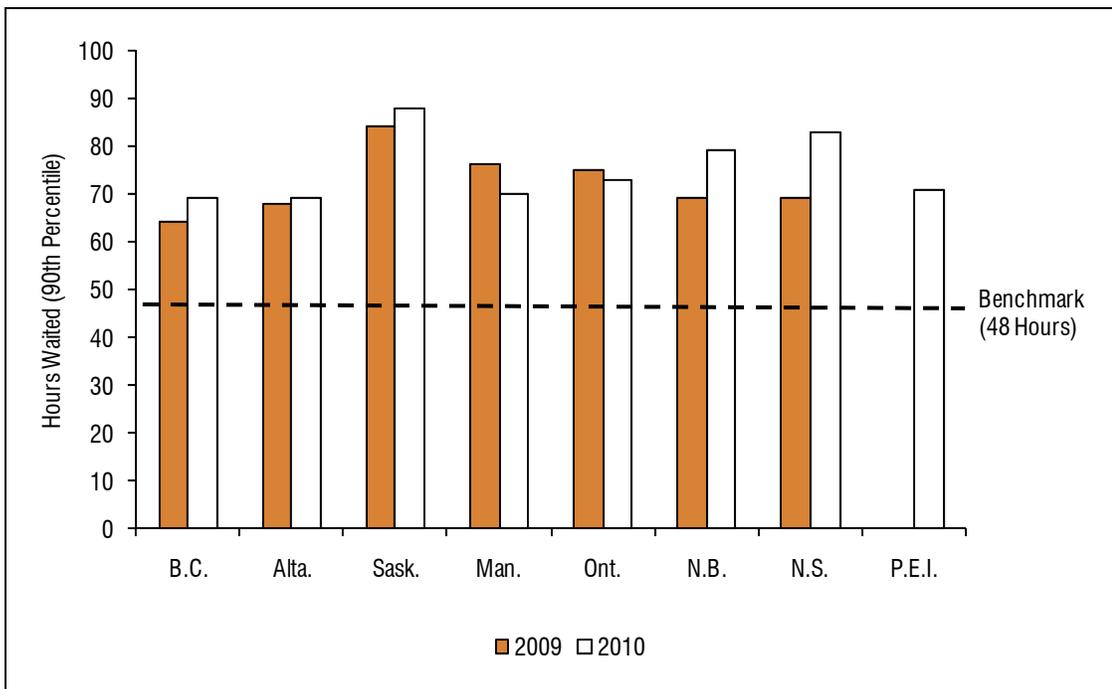


Figure 3C: Wait Times for the 90th Percentile for Hip Fracture Repair, 2008 to 2010



## Emergency Department Wait Times: A Focus on Hip Fracture in Ontario, Alberta and Newfoundland and Labrador

Across the country, waits for surgery following hip fracture are measured starting at the time a patient is admitted to an inpatient bed. However, hip fractures are usually the result of a fall and, for most patients, the wait for treatment begins in the emergency department (ED).<sup>7</sup> For Ontario and Alberta, complete data on ED visits is available in CIHI's National Ambulatory Care Reporting System (NACRS), while a special tabulation from Newfoundland and Labrador provides similar information. ED data can provide some insight into the length of the first segment, or ED, wait.

When the ED wait is included, fewer patients received their surgery within the pan-Canadian benchmark of 48 hours. In the first two quarters of 2010–2011, just over 5,200 patients were admitted to Ontario and Alberta EDs and went on to have a surgical repair of a hip fracture. Half of these patients spent five hours waiting in the ED, while 10% waited longer than 11 hours. On average, Ontario and Alberta hip fracture patients spent between 13% and 16% of their total wait time in the ED. In both provinces, 90% of patients waited between 74 and 79 hours for their surgery after admission to the ED. As a comparison, Newfoundland and Labrador reported waits of 60 hours for many patients (90th percentile).

Province	Registration in ED to Inpatient Admission		Registration in ED to Surgery		Percentage Meeting Benchmark (Includes ED Time)
	50th Percentile Wait Time, Hours	90th Percentile Wait Time, Hours	50th Percentile Wait Time, Hours	90th Percentile Wait Time, Hours	
Alta.	5	11	33	79	70%
Ont.	5	12	31	74	73%
N.L.			26	60	78%

### Sources

National Ambulatory Care Reporting System, 2010–2011, Canadian Institute for Health Information; Regional Health Authorities, Newfoundland and Labrador.

## Part D: Wait Time for Cataract Surgery

**Definition:** The number of days a patient waited, from the booking date to the date the patient received cataract surgery

**Benchmark:** Within 16 weeks (112 days)  
The pan-Canadian benchmark specifies surgery within 16 weeks (112 days) for patients who are at high risk.<sup>6</sup> There is not yet consensus on a definition of “high risk,” so the benchmark is applied across all priority levels.

**Time Frame:** April 1 to September 30, 2010

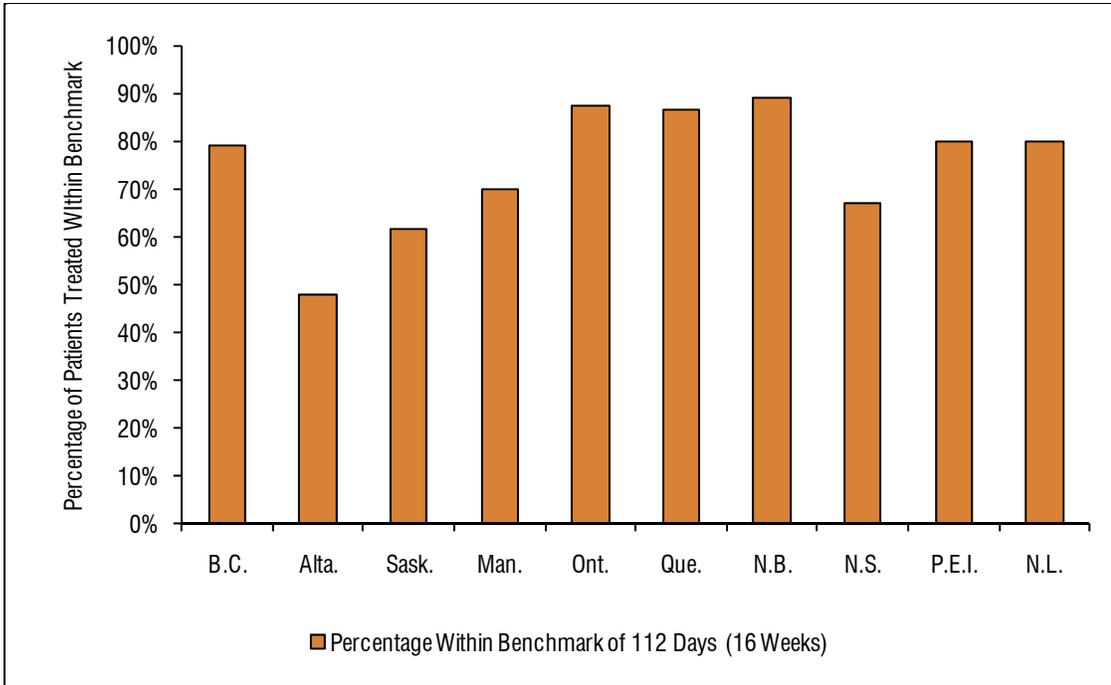
### Population:

- Age 18 and older
- Includes first eye only; bilateral cataract removal counts as a single wait
- Includes all priority levels
- Excludes emergency cases
- Excludes days when patient was unavailable

Exceptions to the Definition and Population for Cataract Surgery	
<b>Sask.*</b>	
<b>Man.</b>	Includes waits for second eye Includes data from the Misericordia Health Centre and PanAm clinics. Wait time is calculated using the volume of procedures done in Winnipeg and Portage, which is 90% of the total volume of surgery done in Manitoba.
<b>Que.*</b>	Includes waits for second eye
<b>N.B.*</b>	Bilateral cataract removal is counted as two waits
<b>N.S.*</b>	
<b>P.E.I.</b>	Bilateral cataract removal is counted as two waits Includes days when patient was unavailable Includes waits for second eye

**Note**  
\* As of 2011, Nova Scotia, New Brunswick, Quebec and Saskatchewan were able to provide new data that aligns with the indicator definition for cataract surgery (see above). As a result, the new data has been used in place of previously submitted data for the purposes of trending in this report.

**Figure 1D: Percentage of Patients Receiving Cataract Surgery Within Benchmark, April 1 to September 30, 2010**



**Note**

The pan-Canadian benchmark specifies surgery within 16 weeks (112 days) for patients who are at high risk.<sup>6</sup> There is not yet consensus on a definition of “high risk,” so the benchmark is applied across all priority levels.

**Figure 2D: Median and 90th Percentile Wait Times for Cataract Surgery, April 1 to September 30, 2010**

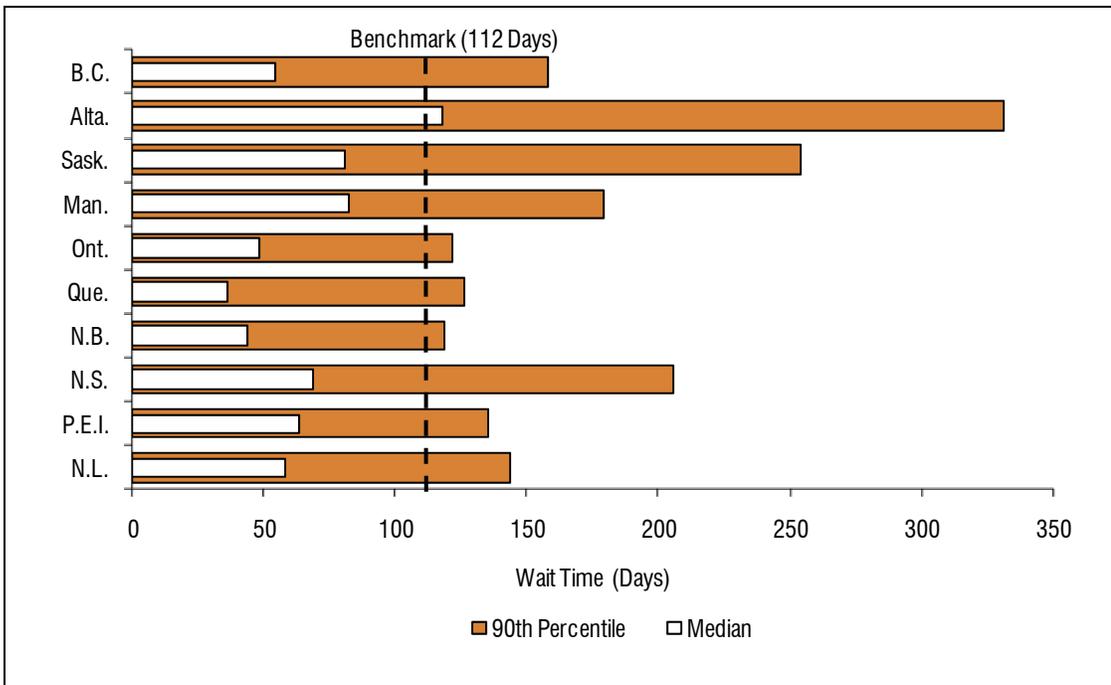
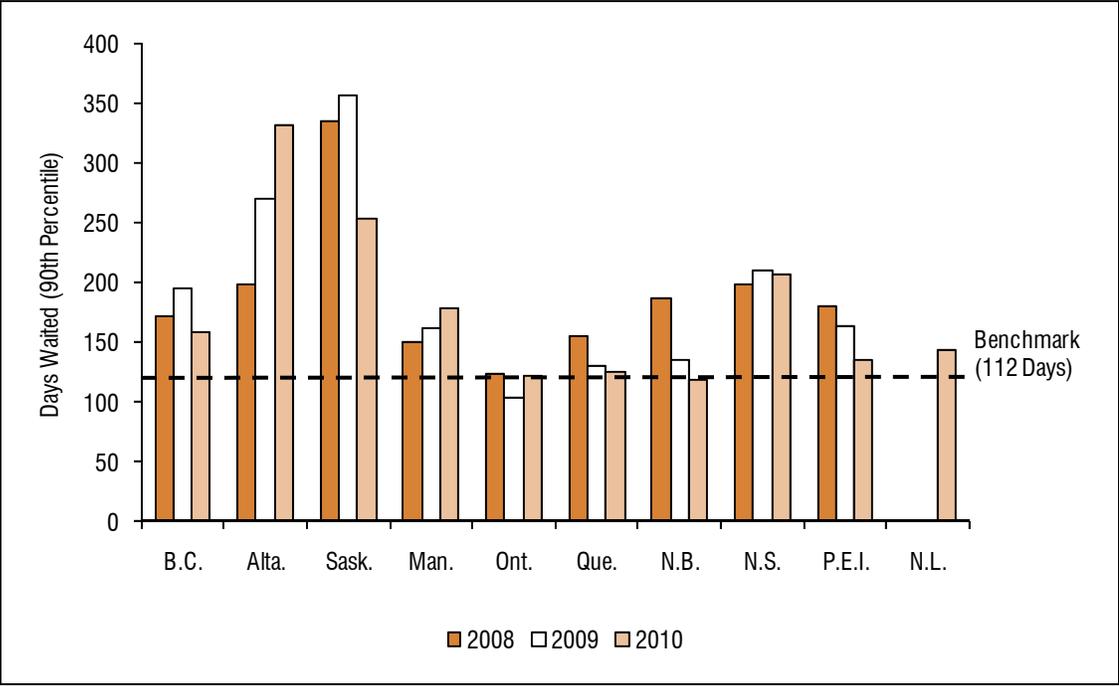


Figure 3D: Wait Times for the 90th Percentile for Cataract Surgery, 2008 to 2010



# Part E: Wait Time for Coronary Artery Bypass Graft (Bypass) Surgery

**Definition:** The number of days a patient waited, from the booking date to the date the patient received bypass surgery

**Benchmark:** Within 26 weeks (182 days)  
The pan-Canadian benchmark specifies surgery within 2 to 26 weeks (14 to 182 days), depending on how urgently care is needed.<sup>6</sup> There is not yet consensus on definitions for urgency levels, so the longest benchmark of 26 weeks is applied across all priority levels.

**Time Frame:** April 1 to September 30, 2010

## Population:

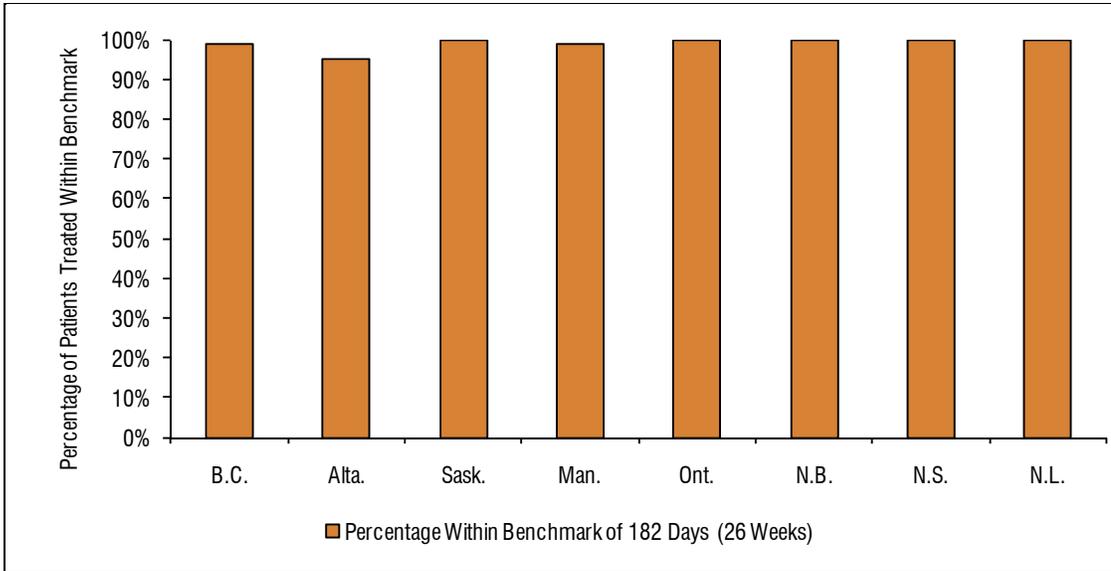
- Age 18 and older
- Excludes emergency cases
- Includes CABG with and without valve replacement
- For all priority levels
- Excludes days when patient was unavailable

Exceptions to the Definition and Population for Bypass Surgery	
<b>B.C.</b>	Start time is the day after the patient is placed on the wait list Excludes valve replacements
<b>P.E.I.*</b>	
<b>N.L.</b>	Includes emergency cases Excludes valve replacements

## Note

\* P.E.I. does not offer cardiac services; patients receive care out of province.

**Figure 1E: Percentage of Patients Receiving Bypass Surgery Within Benchmark, April 1 to September 30, 2010**



**Notes**  
 The pan-Canadian benchmark specifies surgery within 2 to 26 weeks (14 to 182 days), depending on how urgently care is needed.<sup>6</sup> There is not yet consensus on definitions for urgency levels, so the longest benchmark of 26 weeks is applied across all priority levels. Quebec does not submit data according to the benchmarking of 26 weeks. A weighted average is calculated for the percentage of patients having received bypass surgery within their respective priority level, up to a maximum of three months. From April to September 2010, 84% of patients received bypass surgery within their respective priority level.

**Figure 2E: Median and 90th Percentile Wait Times for Bypass Surgery, April 1 to September 30, 2010**

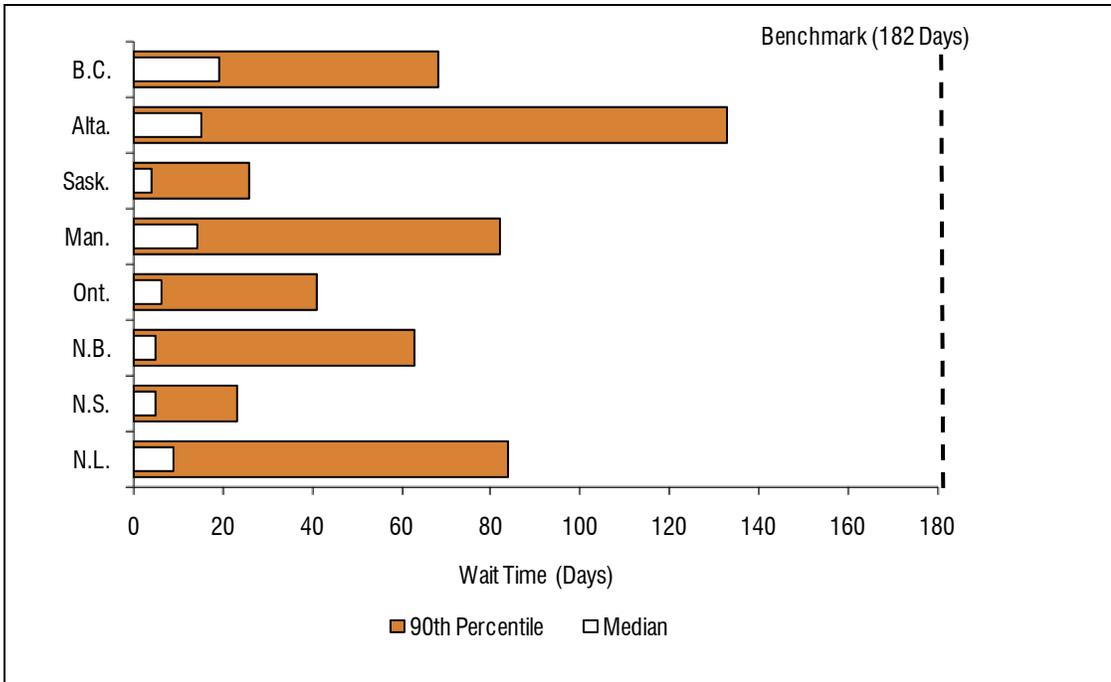
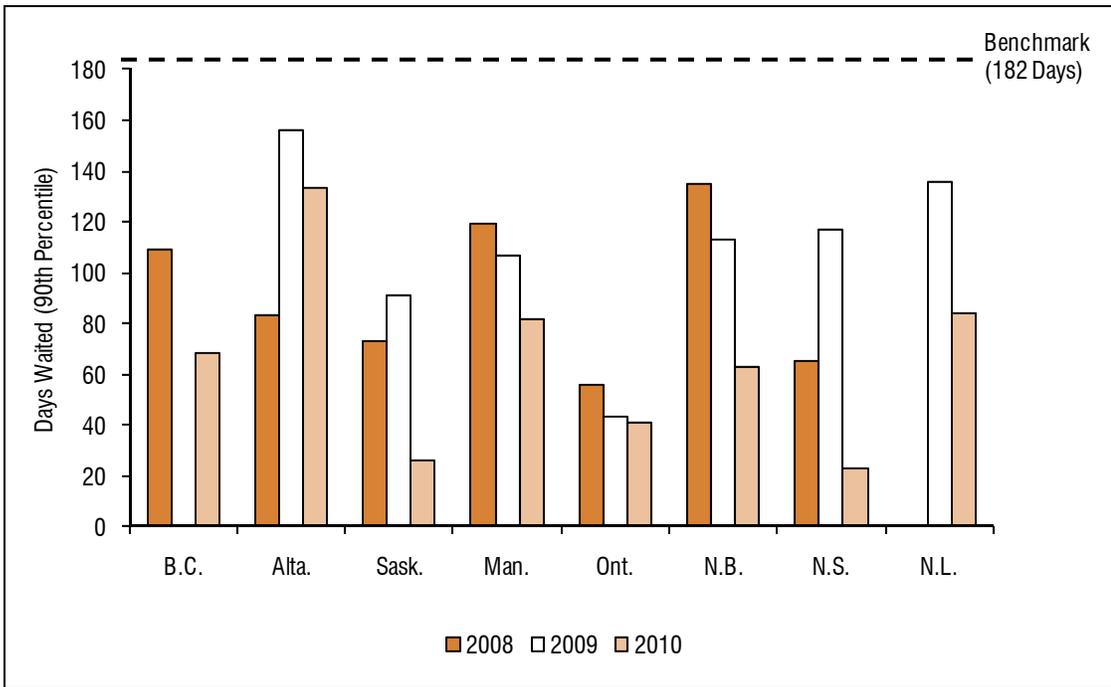


Figure 3E: Wait Times for the 90th Percentile for Bypass Surgery, 2008 to 2010



## Part F: Wait Time for Radiation Therapy

**Definition:** The number of days a patient waited, from the date the patient was ready to treat to the date of the first radiation therapy treatment

**Benchmark:** Within 4 weeks (28 days) of a patient being ready to treat

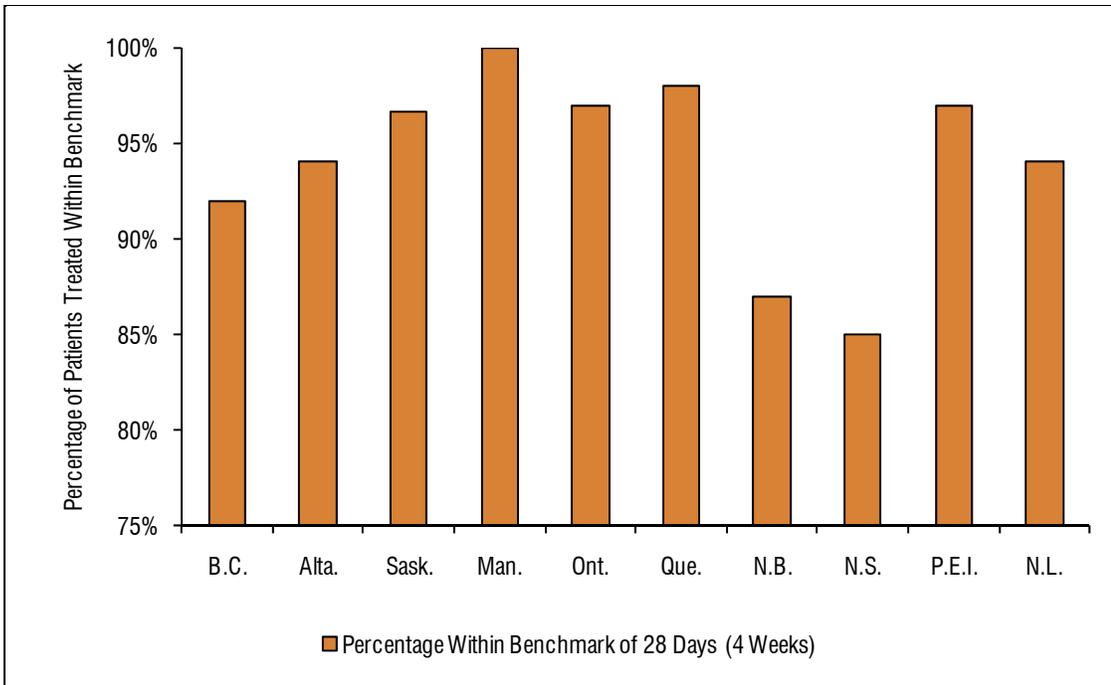
**Time Frame:** April 1 to September 30, 2010

**Population:**

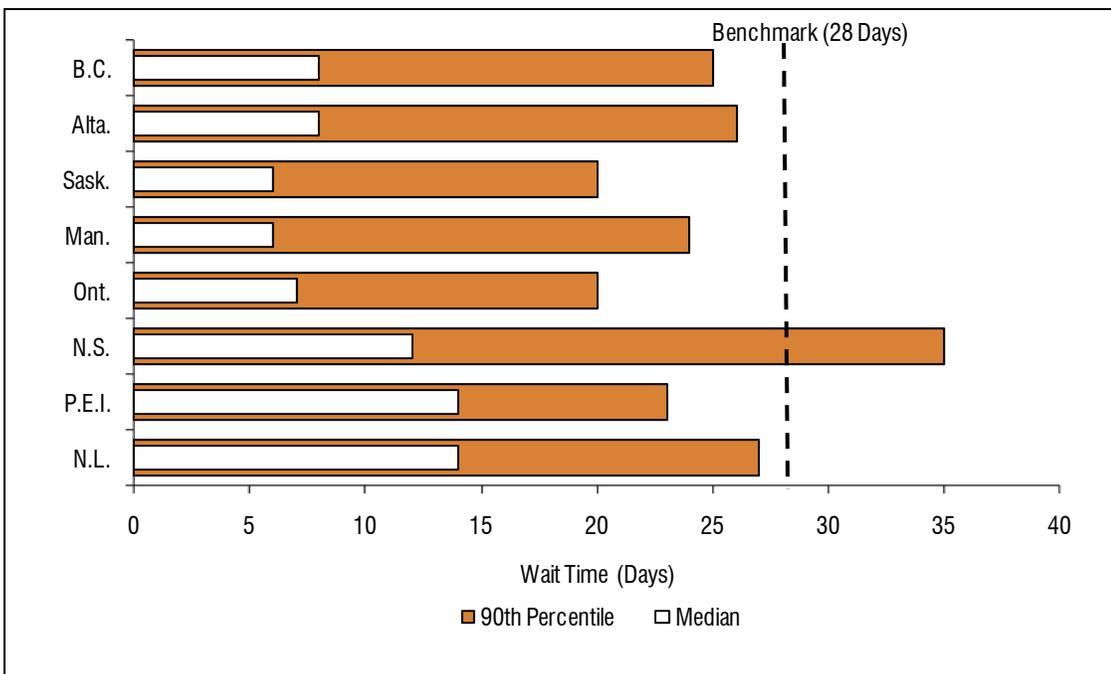
- Age 18 and older
- Includes all referrals to start or initiate radiation treatment
- Includes all priority levels and all cancer types rolled up

Exceptions to the Definition and Population for Radiation Therapy	
<b>B.C.</b>	Data for the 50th percentile and 90th percentile is from July to September 2010
<b>Man.</b>	Start time is decision to treat
<b>Ont.</b>	Start time is decision to treat
<b>N.L.</b>	Start time is decision to treat Excludes cases where the primary cancer site is unknown Excludes palliative cases

**Figure 1F: Percentage of Patients Receiving Radiation Therapy Within Benchmark, April 1 to September 30, 2010**

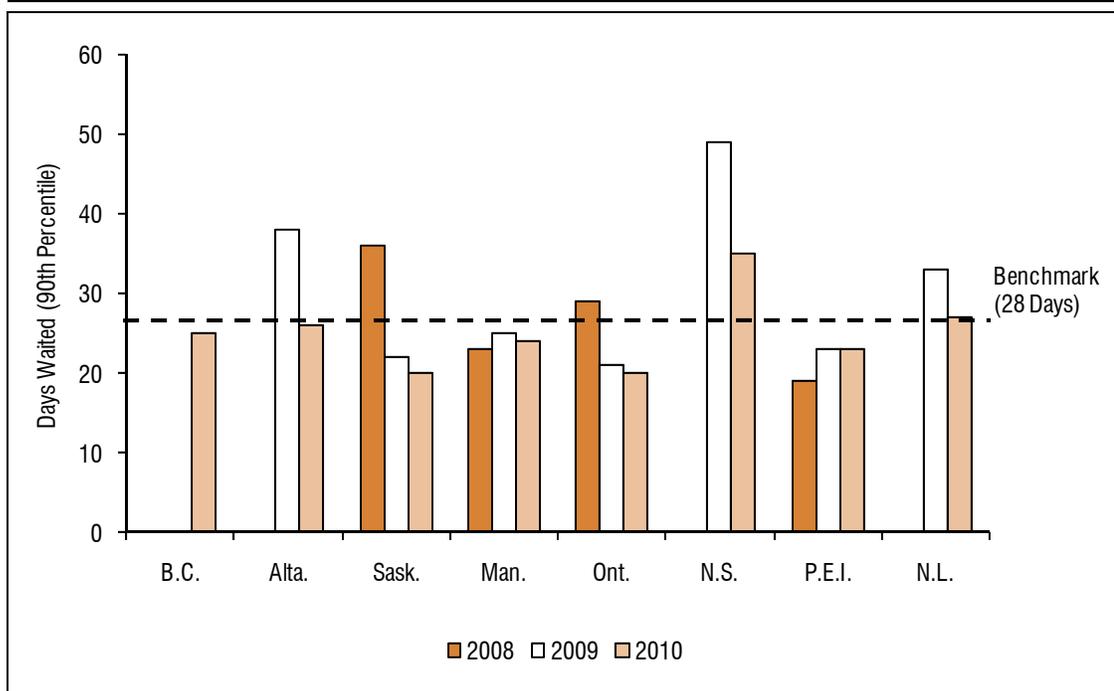


**Figure 2F: Median and 90th Percentile Wait Times for Radiation Therapy, April 1 to September 30, 2010**



**Note**  
Data for 50th and 90th percentiles is not available for Quebec and New Brunswick.

**Figure 3F: Wait Times for the 90th Percentile for Radiation Therapy, 2008 to 2010**



**Note**  
Data for the 90th percentile is not available for Quebec and New Brunswick.

## Part G: Wait Time for a CT Scan

**Definition:** The number of days a patient waited, from the date the order/requisition was received to the date the patient received the CT scan

**Time Frame:** April 1 to September 30, 2010

**Population:**

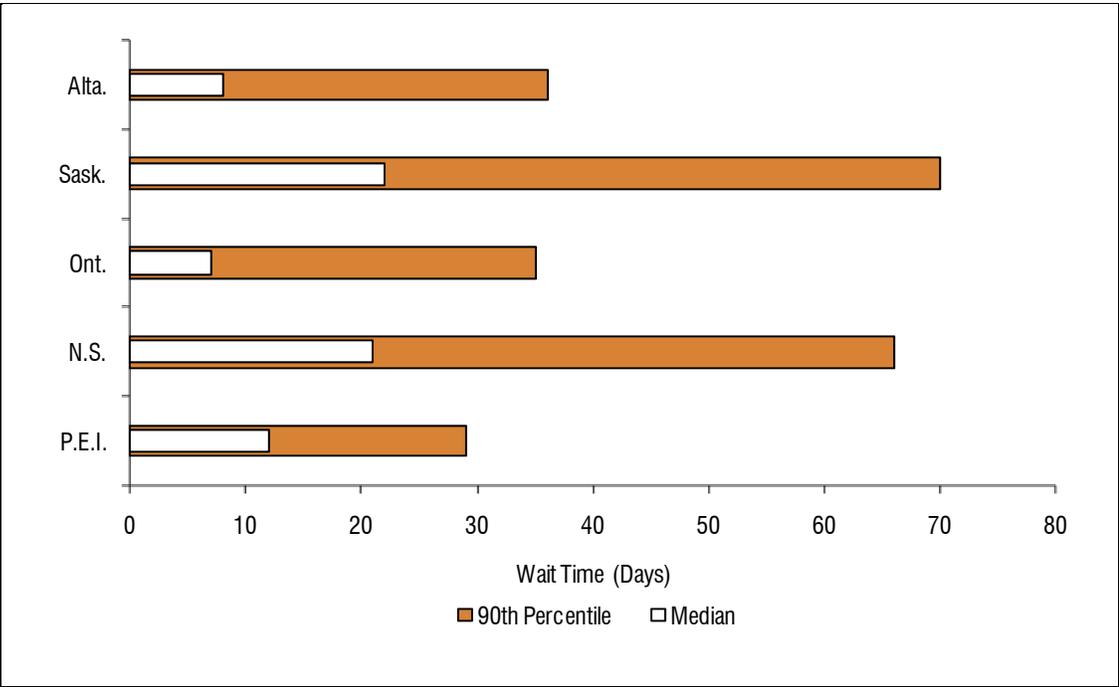
- Age 18 and older
- Includes diagnostic scans (inpatient and/or outpatient)
- Includes all priority levels
- Excludes routine follow-up scans
- Excludes mammography screening and prenatal screening

Exceptions to the Definition and Population for a CT Scan	
<b>Alta.</b>	Includes all ages Start time is decision date, or booking date if decision date is unavailable Excludes inpatients Excludes diagnostic imaging data from the Calgary Zone
<b>Sask.</b>	Includes all ages Includes only CT scans performed in Regina and Saskatoon health regions Excludes exams performed for the Workers' Compensation Board Excludes Prairie North, PA Parkland, Cypress, Five Hills and Sunrise health regions
<b>Man.*</b>	
<b>Ont.†</b>	
<b>N.S.</b>	Excludes CT scans performed at IWK Health Centre
<b>P.E.I.‡</b>	Includes all ages Excludes inpatients

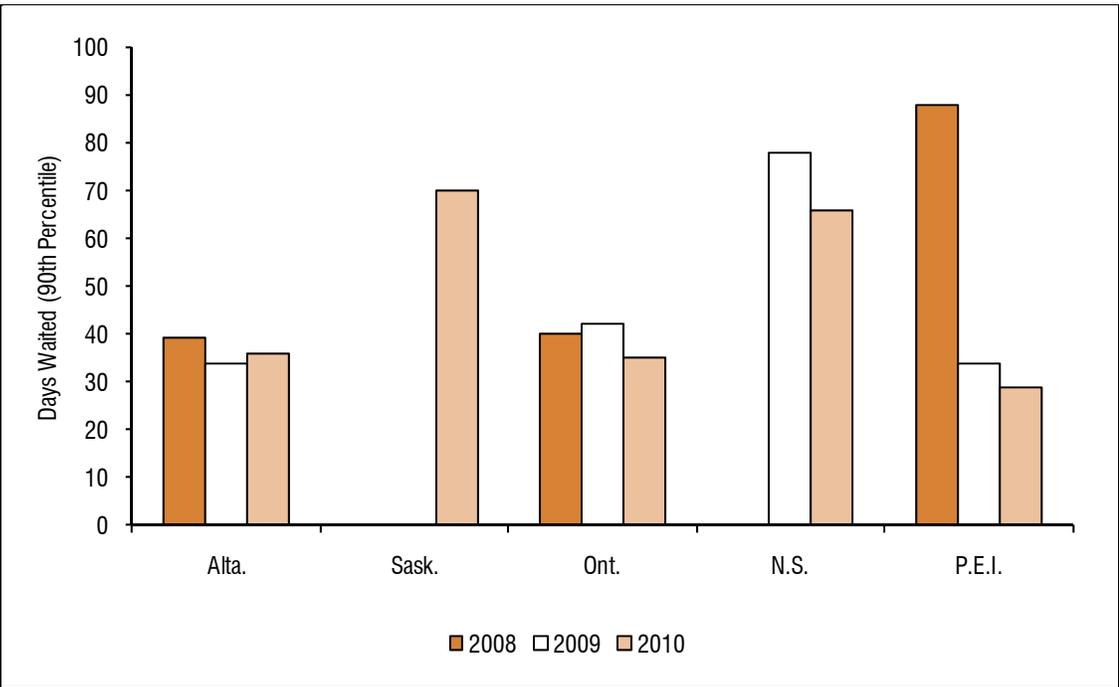
**Notes**

- \* Manitoba was not able to provide summary measures; however, the maximum estimated wait time for CT scans has been consistently reported on the provincial wait time website.
- † Ontario established provincial targets for CT scans based on patient urgency classifications. The provincial target for Priority IV (non-emergency, least urgent) patients is four weeks.
- ‡ P.E.I. established a provincial access target of 90% of patients receiving care within eight weeks of referral for CT scans (Urgency III—completed within 56 days).

**Figure 1G: Median and 90th Percentile Wait Times for CT Scans, April 1 to September 30, 2010**



**Figure 2G: Wait Times for the 90th Percentile for CT Scans, 2008 to 2010**



## Part H: Wait Time for an MRI Scan

**Definition:** The number of days a patient waited, from the date the order/requisition was received to the date the patient received the MRI scan

**Time Frame:** April 1 to September 30, 2010

**Population:**

- Age 18 and older
- Includes diagnostic scans (inpatient and/or outpatient)
- Includes all priority levels
- Excludes routine follow-up scans
- Excludes mammography screening and prenatal screening

Exceptions to the Definition and Population for an MRI Scan	
<b>Alta.</b>	Includes all ages Start time is decision date, or booking date if decision date is unavailable Excludes inpatients Excludes diagnostic imaging data from the Calgary Zone
<b>Sask.</b>	Includes all ages Includes only MRI scans performed in Regina and Saskatoon health regions Excludes exams performed for the Workers' Compensation Board
<b>Man.*</b>	
<b>Ont.†</b>	
<b>N.S.</b>	Excludes MRI scans performed at IWK Health Centre
<b>P.E.I.‡</b>	Includes all ages Excludes inpatients

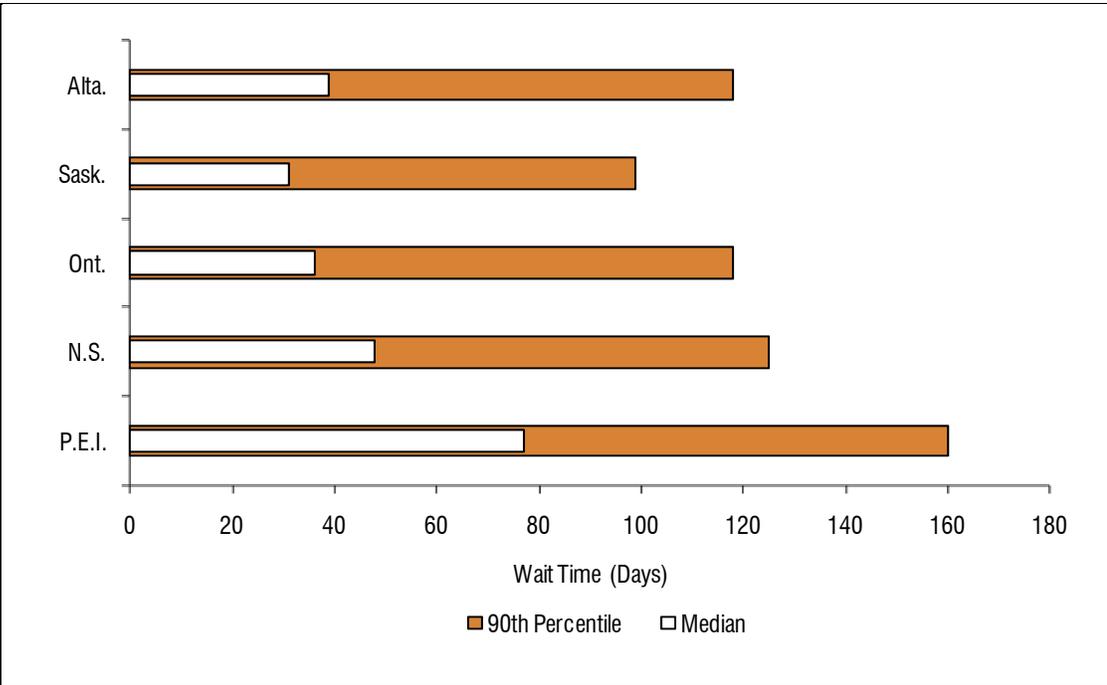
**Notes**

\* Manitoba was not able to provide summary measures; however, the maximum estimated wait time for MRI scans has been consistently reported on the provincial wait time website.

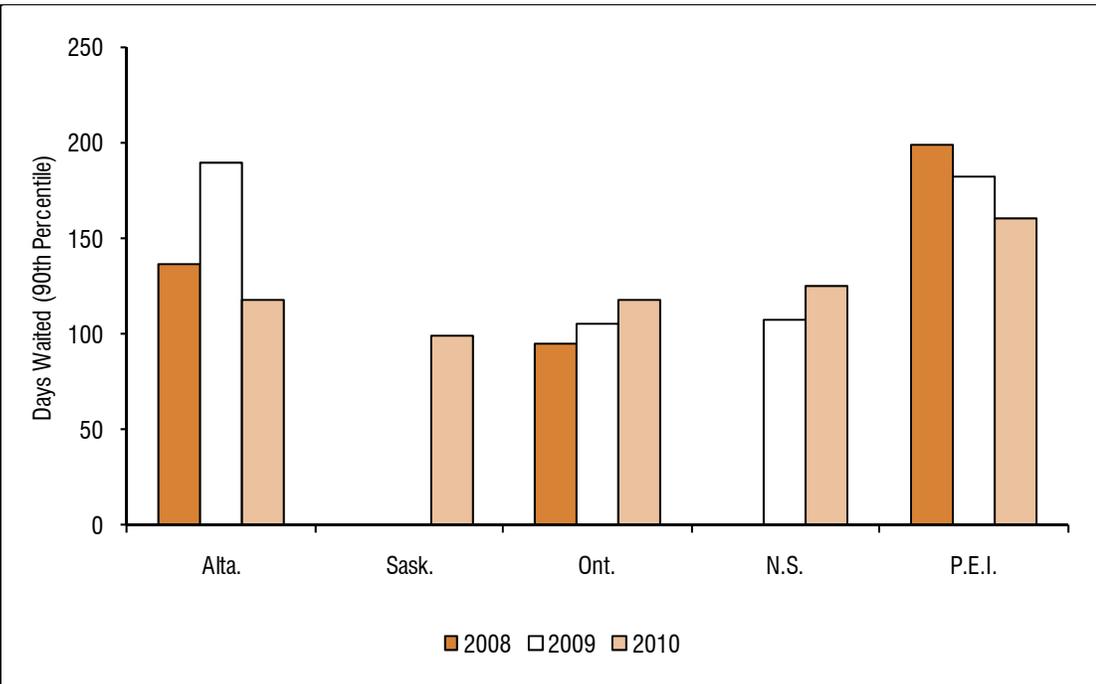
† Ontario established provincial targets for MRI scans based on patient urgency classifications. The provincial target for Priority IV (non-emergency, least urgent) patients is four weeks.

‡ P.E.I. established a provincial access target of 90% of patients receiving care within 12 weeks of referral for MRI scans (Urgency III—completed within 84 days).

**Figure 1H: Median and 90th Percentile Wait Times for MRI Scans, April 1 to September 30, 2010**



**Figure 2H: Wait Times for the 90th Percentile for MRI Scans, 2008 to 2010**



## For More Information

This Analysis in Brief is part of CIHI's ongoing program of work related to access to care, including wait times. This area was identified as a priority through consultations leading up to the development of CIHI's *Strategic Directions, 2005–2006 to 2007–2008*. Specific topics for analysis were selected based on subsequent focused consultations on priorities for better information about access to care.

Copies of this document are available free of charge in both official languages on CIHI's website at [www.cihi.ca](http://www.cihi.ca).

## Acknowledgements

CIHI would like to acknowledge and thank the many individuals and organizations that contributed to the development of this Analysis in Brief.

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This analysis could not have been completed without the generous support and assistance of several other organizations, including access and wait time representatives from provincial ministries of health.

# Appendix A: Trending Information

**Table A1: Wait Time Trends for Joint Replacements, Cataract Surgery, Bypass Surgery and Radiation Therapy, 2008 to 2010**

	Hip Replacements		Knee Replacements		Cataract Surgery*		Bypass Surgery		Radiation Therapy	
	50th Percentile	90th Percentile	50th Percentile	90th Percentile	50th Percentile	90th Percentile	50th Percentile	90th Percentile	50th Percentile	90th Percentile
B.C.	▲	▼	---	▼	---	---	▼	▼	▲	
Alta.	---	---	---	▲	▲	▲	▲	▲		
Sask.	▼	▼	▼	▼	▼	▼	---	▼	▼	▼
Man.	▲	▲	▲	▲	---	▲	▼	▼	▲	---
Ont.	---	---	---	▼	---	---	▼	▼	▼	▼
Que.	---	▲	▲	---	▼	▼				
N.B.	▼	▼	▼	▼	▼	▼	▲	▼		
N.S.	▼	▼	---	▼	▲	---	▼	▼		
P.E.I.	▼	▼	▲	---	▼	▼			▲	▲
N.L.										

**Legend**

- ▼ Wait times decreasing.
- ▲ Wait times increasing.
- ▨ Data not available for reporting.
- Trending is not possible due to changes in reporting since 2008.
- No change in wait times.

**Notes**

A trend is at least a 10% change from the first year (2008), either up or down, in the wait time. Wait times were considered unchanged with any difference of less than 10%. Some provinces may have made big gains in wait times prior to 2008, which will not be reflected in the trending displayed in Table A1. It is also harder to get a 10% change if wait times are already at the benchmark.

Trending for waits for hip fracture surgery will start in 2012.

\* As of 2011, Nova Scotia, New Brunswick, Quebec and Saskatchewan were able to provide new data that more accurately follows the indicator definition for cataract surgery (see page 23). As a result, the new data has been used in place of previously submitted data for the purposes of trending in this report.

**Table A2: Change in Wait Times for CT Scans and MRI Scans, 2008 to 2010**

	CT Scans		MRI Scans	
	50th Percentile	90th Percentile	50th Percentile	90th Percentile
<b>Alta.</b>	▼	---	---	▼
<b>Ont.</b>	▼	▼	▲	▲
<b>P.E.I.</b>	▼	▼	---	▼

**Legend**

--- No change in wait times.

▼ Wait times decreasing.

▲ Wait times increasing.

**Note**

A trend is at least a 10% change from the first year (2008), either up or down, in the wait time. Wait times were considered unchanged with any difference of less than 10%. Some provinces may have made big gains in wait times prior to 2008, which will not be reflected in the trending displayed in Table A2.

# Appendix B: Technical Notes for Waits for Hip Fracture Surgery

## Part 1: Definitions, Data Sources, Case Selection and Methodology for Inpatient Wait Time for Hip Fracture Surgery

### Definitions

**Benchmark:** Hip fracture fixation within 48 hours (set by federal, provincial and territorial governments in December 2005)

In discussion with provinces and recognizing the limitations of the data, this benchmark has been interpreted as

$$\begin{array}{l} \text{Percentage Meeting} \\ \text{Benchmark of 48} \\ \text{Hours From Inpatient} \\ \text{Admission} \end{array} = \frac{\begin{array}{l} \text{The number of hip fracture patients, age 18 and older, who} \\ \text{underwent hip fracture surgery within 48 hours of the time} \\ \text{of inpatient admission} \end{array}}{\begin{array}{l} \text{The total number of hip fracture patients, age 18 and older,} \\ \text{who received hip fracture surgery} \end{array}}$$

**Inpatient hip fracture surgery wait segment/time:** The number of hours the patient waited, from the time of first inpatient admission with a hip fracture (index admission) to the time the patient received hip fracture repair surgery. **Note:** Waits were calculated only for patients who had a surgical repair.

**50th Percentile:** The number of hours within which half of the patients in the sample received surgery and half were still waiting.

**90th Percentile:** The number of hours within which 90% of the patients in the sample received surgery and 10% were still waiting.

### Data Sources

Patients discharged from April 1, 2010, to September 30, 2010, from acute care facilities that submit to CIHI's Discharge Abstract Database (DAD). Open-year data may not contain complete provincial/territorial submissions to CIHI. At the time of analysis, it is estimated CIHI had received 97% of abstracts, relative to 2009–2010 for the same time period. While provincial completeness is high, there may be distinct analytic impacts for provinces with slower submissions to CIHI. Additionally, open-year data will not have been subjected to the full cycle of quality validation, at both CIHI and the submitting facilities. Hospitals may still add, delete or correct records.

Quebec wait times for hip fracture repair are not included due to methodological differences in the data. For information on Quebec hip fracture wait times, see CIHI's upcoming release, *Comparing Wait Times for Hip Fracture Repair in Quebec With Other Jurisdictions, 2006–2007 to 2009–2010*.

The methodology used for this report differs from that used in previous *Health Indicators* reports. As of 2009–2010, inclusion of "time of intervention" is captured and allows for a more accurate estimate of wait times. For more information on *Health Indicators* methodology, see [www.cihi.ca/indicators](http://www.cihi.ca/indicators).

## Methodology

### Case Selection

#### Inclusions

- Males and females age 18 and older
- Admitted to acute care facilities
- Admitted for a hip fracture (see code selection below) in the following scenarios:
  - A. Main diagnosis was hip fracture (type M)
  - B. Hip fractures were pre-admit comorbidities (type 1) or service transfers (types 1, W, X and Y)
  - C. Main diagnosis was for rehabilitation (see code selection below) with a pre-admit hip fracture or service transfer (types 1, W, X and Y) and a hip replacement procedure (see code selection below)

#### Exclusions

- Patients with invalid health card numbers
- Fractures that occurred post-admission (type 2)

#### Episode Building

- Patients may be admitted to one hospital and transferred to another for further treatment. Linking all admissions together into a single episode of care allows us to see the entire acute portion of the pathway of care.
- A transfer is defined as a scenario when a patient is discharged from one acute facility and admitted to another within 24 hours, with all abstracts having a diagnosis of hip fracture.
- Linkage is done by combining the health care number, gender and province issuing health care number to create a unique identifier for each patient and identifying all relevant acute care admissions.

#### Time Calculations

- Time to surgery is calculated as time from initial inpatient admission for a hip fracture to start time of surgical episode for a hip repair (may be a fixation or replacement).
- There are no time calculations done for patients with invalid date/time estimates in the admission date/time or surgical episode date/time variables.
- If the patient did not receive a hip repair in the time frame (April 1 to September 30, 2010), no time was calculated.

### Code Selection

#### Hip fracture

ICD-10: S72.0 ^, S72.1 ^ or S72.2 ^

#### Hip repair

CCI: 1VA74 ^, 1VA53 ^, 1VC74 ^ or 1SQ53 ^

#### Rehabilitation

ICD-10: Z50.1 ^, Z50.8 ^, Z50.9 ^, Z54.0 ^, Z54.4 ^, Z54.7 ^, Z54.8 ^ or Z54.9 ^

## Part 2: Definitions, Data Sources and Methodology for Emergency Department Wait Time for Hip Fracture Surgery

### Definitions That Differ From Part 1

**Benchmark:** Hip fracture fixation within 48 hours (set by federal, provincial and territorial governments in December 2005)

This benchmark has been interpreted as

$$\begin{array}{l} \text{Percentage Meeting} \\ \text{Benchmark of 48} \\ \text{Hours From ED} \\ \text{Admission} \end{array} = \frac{\begin{array}{l} \text{The number of hip fracture patients, age 18 and older, who} \\ \text{underwent hip fracture surgery within 48 hours of the time} \\ \text{of admission to the ED} \end{array}}{\begin{array}{l} \text{The total number of hip fracture patients, age 18 and older,} \\ \text{who received hip fracture surgery} \end{array}}$$

**Emergency department hip fracture surgery wait time:** Measured in hours from the time of first registration in an ED with a hip fracture (index admission) to the time when hip surgery was received. **Note:** Waits were calculated for patients who had a surgical repair only.

### Data Sources

Patients discharged from April 1, 2010, to September 30, 2010, from Ontario and Alberta emergency care facilities that submit to CIHI's National Ambulatory Care Reporting System (NACRS), as well as to DAD, as indicated in Part 1. Open-year data may not contain complete provincial/territorial submissions to CIHI. At the time of analysis, CIHI had received 99% of abstracts, relative to 2009–2010 for the same time period. While provincial completeness is high, there may be distinct analytic impacts for provinces with slower submissions to CIHI. Additionally, open-year data will not have been subjected to the full cycle of quality validation, at both CIHI and the submitting facilities. Hospitals may still add, delete or correct records.

### Methodology

This methodology for ED wait times for hip fracture surgery builds on previous estimates of inpatient wait times for hip fracture surgery by measuring time spent in the ED by patients in Ontario and Alberta. This data is not available for other provinces in NACRS.

Our base sample is patients admitted to an Ontario or Alberta acute care facility with a hip fracture and repair as previously identified (see Part 1 for code selection). The next step is to identify any immediately preceding visits made by sample patients to an Ontario or Alberta ED, which will provide the ED portion of the wait.

## Emergency Department Definition

Ontario and Alberta EDs are defined by their MIS functional codes, which are those starting with 71310, 72310 or 73310.

## Transfers/Episode Building

- Patients may be admitted to one ED and transferred to another. Linking all admissions together into a single episode of care allows us to see the entire ED portion of the pathway of care.
- A transfer is defined as a scenario when a patient is discharged from one ED and admitted to another within 24 hours.

## Linkage From DAD to NACRS

- Patients are identified in DAD and NACRS using a personal identifier created using the first 10 digits of the health care number, gender and the province issuing health care number.
- The ED record is considered related to the inpatient admission for hip fracture if the patient is discharged from the ED 24 hours or less prior to the inpatient admission.

**Note: Abstracts were excluded if they indicated that patients entered through the ED but there were no matching ED episodes, as the analysis was incomplete.**

## Time Calculations

- Overall wait time was calculated as time patient first registered in ED (index ED admission) to start time of surgical repair.
- Portion of time spent in ED was calculated as time patient first registered in ED (index ED admission) to time of inpatient admission.
- Portion of time spent in acute care was calculated as time from inpatient admission to start time of surgical repair.

## Appendix C: Calculating the All-Canada Percentage Meeting Benchmark

The national percentage meeting benchmark estimates was calculated as follows:

$$\text{National percentage meeting benchmark} = \frac{\text{Total patients meeting benchmark for each province}^*}{\text{Total procedures performed}}$$

**Note**

\* Estimated by provincially submitted volumes and percentage meeting benchmark.



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