



**ARTHRITIS COMMUNITY RESEARCH  
& EVALUATION UNIT (ACREU)  
University Health Network**

**SETTING THE STAGE FOR  
SERVICE PLANNING:**

**A profile of arthritis and  
bone and joint conditions**

**CENTRAL LHIN**

\*Address for correspondence:

Elizabeth Badley  
[e.badley@utoronto.ca](mailto:e.badley@utoronto.ca)

Arthritis Community Research &  
Evaluation Unit (ACREU)

Toronto Western Research Institute

399 Bathurst Street  
MP-10<sup>th</sup> Floor, Suite 316  
Toronto, ON M5T 2S8  
Tel: (416) 603-6269  
Fax: (416) 603-6288

[www.acreu.ca](http://www.acreu.ca)

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## Executive Summary

This report provides an overview of the Central LHIN using data available on prevalence of musculoskeletal conditions, utilization of health services and availability of health human resources for the population with musculoskeletal conditions. These findings can be set in the context of the burden of musculoskeletal conditions in each LHIN and can be used for further development of care delivery systems for chronic disease management.

Relative to the province, Central has higher

- Primary care physicians per population
- Occupational therapists per population

Relative to the province, Central has lower

- Prevalence of arthritis/rheumatism
- Rates of emergency department visits for musculoskeletal conditions
- Rates of inpatient hospitalizations for musculoskeletal conditions, particularly trauma and bone and joint conditions
- Rates of day surgeries for trauma and related conditions
- Rates of orthopaedic surgery, particularly reductions with or without fixation
- Orthopaedic surgeons per population

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## Overview

This profile provides an overview of the burden of musculoskeletal (MSK) conditions, health care utilization as well as availability of health human resources for individuals with musculoskeletal conditions in the Central Local Health Integration Network (LHIN). It integrates existing data sources for health services in Ontario to provide a comprehensive overview of current service need, utilization and availability of musculoskeletal care. The profile is intended to assist health planners make informed decisions about health services for individuals with MSK conditions and can be used for further development of care delivery systems for chronic disease management.

For the purposes of this profile, the term ‘musculoskeletal conditions’ will refer to a broad group of numerous conditions including arthritis and related conditions, trauma (fractures, dislocations, strains and sprains) and bone and joint conditions. The information presented in this document is meant to assist in decision making and health services planning and is not intended to be used in isolation of other data sources. The specific data sources used are described throughout the profile and a [glossary](#) of all terminology is provided at the end of the report.

The profile is divided into three sections according to the following aspects:

- 1. Burden:** The burden of MSK conditions was measured by the self-reported prevalence of arthritis or rheumatism, back problems, repetitive strain injury, injuries and activity limitation.
- 2. Health care utilization:** Rates and proportions of individuals with visits to physicians for various musculoskeletal conditions are reported by age, gender, service setting and physician type.
- 3. Health care availability:** Data are presented on the availability of health human resources for musculoskeletal conditions, focusing on primary care physicians, rheumatologists, orthopaedic surgeons, physiotherapists and occupational therapists. Reported indicators include the number of health care providers per population, a detailed description of their working hours and details regarding public versus privately funded occupational therapy and physiotherapy clinics.

Crude rates and proportions for each LHIN are presented in this profile. For direct comparison between LHINs, age and sex standardized rates to the Ontario population are presented in the Ontario profile ([Working Report 09-01](#)).

## Burden of Musculoskeletal Conditions

This section uses data from the 2005 Canadian Community Health Survey (CCHS) Cycle 3.1 to estimate the prevalence of selected types of MSK conditions in the population.

The CCHS has information on three types of musculoskeletal conditions: arthritis, back problems and repetitive strain injuries. It also captures data on injuries that could potentially require the services of rehabilitation professionals; these injuries may be undiagnosed or unreported musculoskeletal conditions.

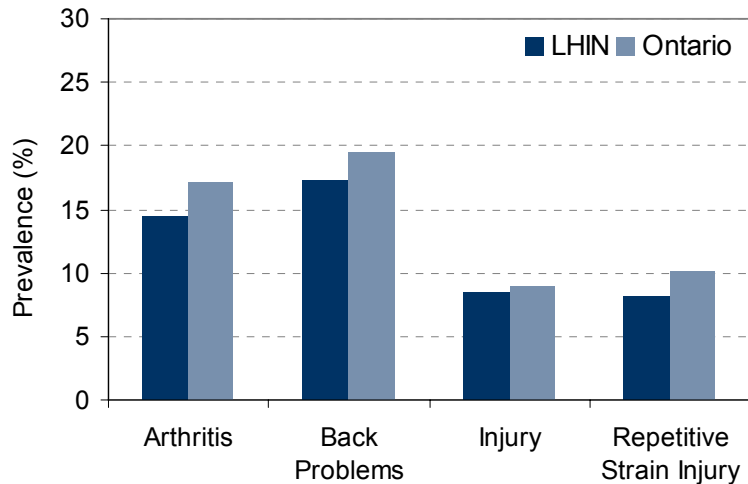
### Data Source

The Canadian Community Health Survey (CCHS) is a cross-sectional general population health survey that collects information related to health status, health care utilization and health determinants for the Canadian population. Statistics Canada performs the survey every two years. The CCHS has a large sample and was designed to provide reliable estimates at the health region level. The target population of the CCHS was persons aged 12 years or older who were living in private dwellings in the ten provinces and the three territories. Persons living on Indian Reserves or Crown lands, clientele of institutions, full-time members of the Canadian Armed Forces and residents of certain remote regions were excluded. The overall response rate was 84.7%, and 130,827 individuals participated. All analyses performed on the CCHS data were weighted in order to ensure that derived estimates were meaningful or representative of the entire targeted Canadian population 15 years of age and older.

## Prevalence of musculoskeletal conditions

**Figure 1: Prevalence of self-reported musculoskeletal conditions (population 15 years or older), Central LHIN and Ontario, 2005**

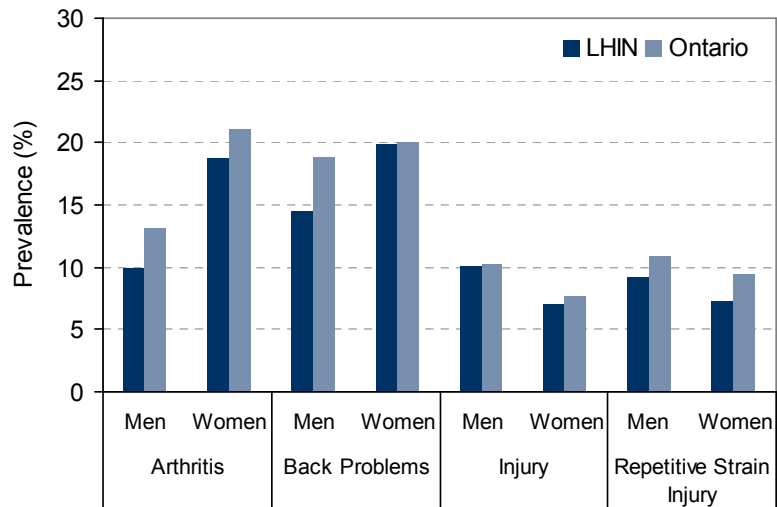
- ✦ 15% of Central LHIN residents reported having arthritis or rheumatism and 17% reported having back problems as long-term chronic health problems (17% reported arthritis and 19% reported back problems in Ontario).
- ✦ 8% of Central LHIN residents reported they had an injury, similar to the percent reporting a repetitive strain injury (9% and 10% in Ontario, respectively).



Data Source: Canadian Community Health Survey Cycle 3.1

**Figure 2: Prevalence of self-reported musculoskeletal conditions (population 15 years or older) by gender, Central LHIN and Ontario, 2005**

- ✦ The prevalence of arthritis and back problems was higher in women than men.

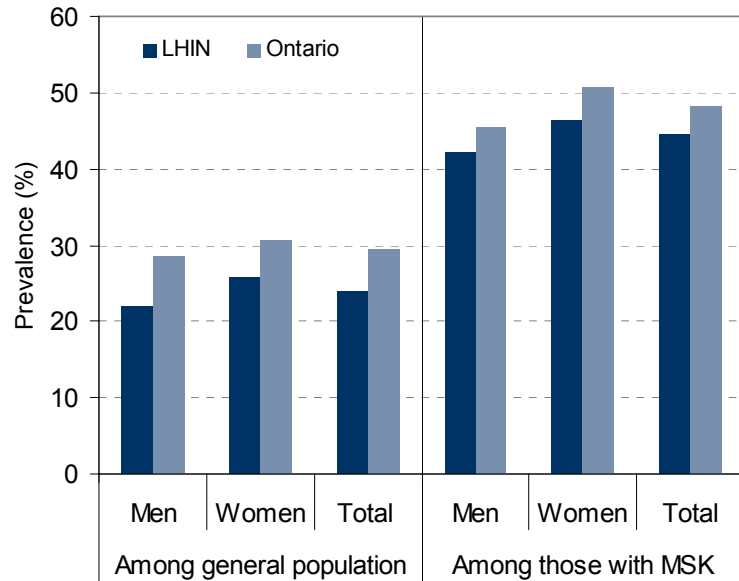


Data Source: Canadian Community Health Survey Cycle 3.1

## Prevalence of self-reported activity limitations associated with musculoskeletal conditions

**Figure 3: Prevalence of self-reported activity limitations among the general population and among people with musculoskeletal conditions (population 15 years or older), Central LHIN and Ontario, 2005**

- ✦ 24% of residents of the Central LHIN have activity limitations compared to 29% in Ontario.
- ✦ Among those with MSK conditions, 44% reported activity limitations compared to 48% in Ontario.
- ✦ The prevalence of self-reported activity limitations was higher for women than men.



Data Source: Canadian Community Health Survey Cycle 3.1



# Health Care Utilization by Individuals with Musculoskeletal Conditions

This section uses data from several databases on health care utilization for the 2006/07 fiscal year (April 1<sup>st</sup>, 2006 to March 31<sup>st</sup>, 2007). The databases are described in the table below (for more detailed methodology, please see ACREU [Working Paper 08-05](#)).

Individuals who had encounters with all physicians for musculoskeletal conditions in ambulatory as well as hospital settings (inpatient, emergency department visits and day surgery) during the 2006/07 fiscal year (April 1<sup>st</sup>, 2006 to March 31<sup>st</sup>, 2007) were used for the analysis presented here. It must be noted that not everyone with a musculoskeletal condition will visit a physician every year.

## Data Sources

### OHIP Databases

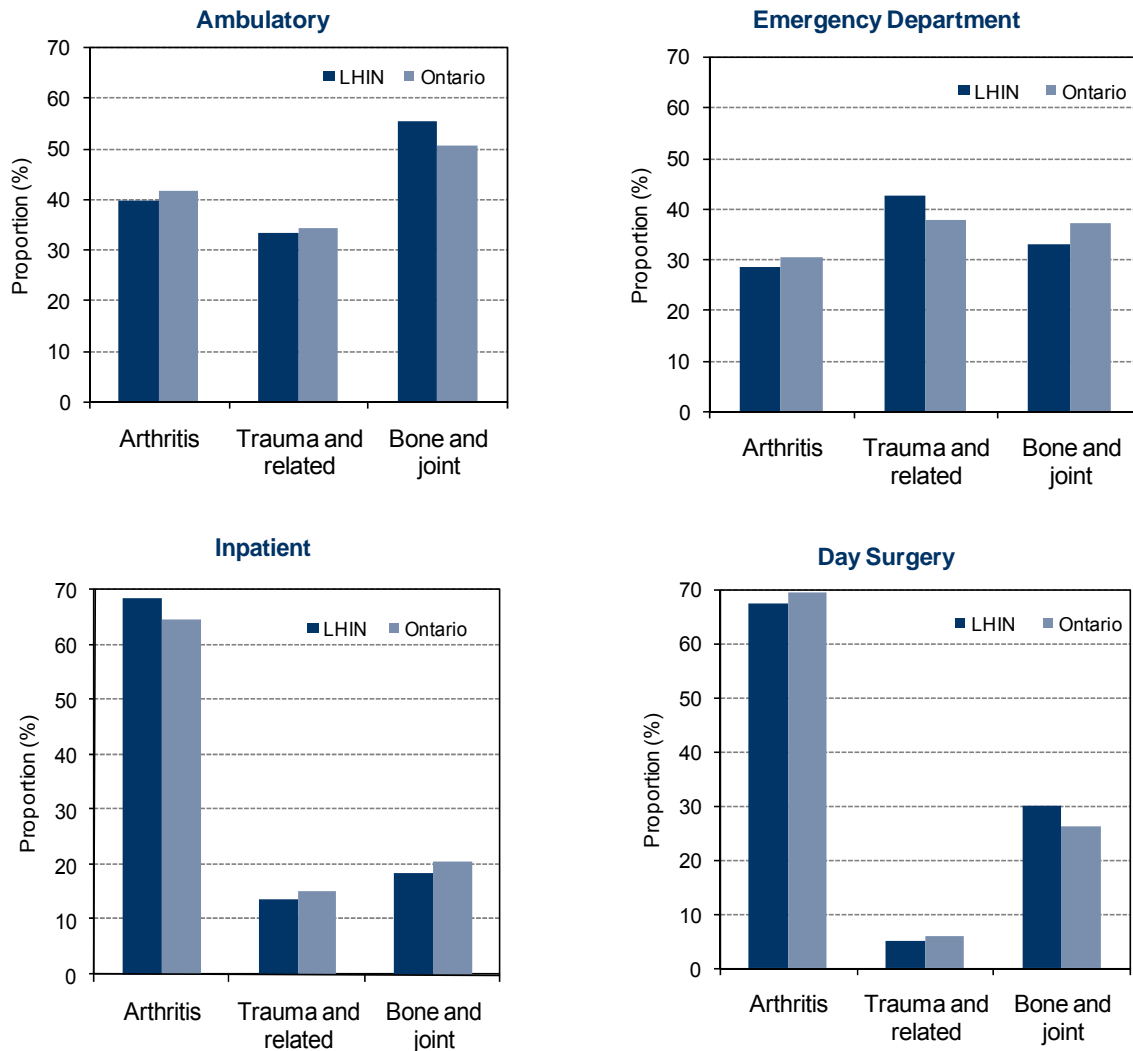
- *Ontario Health Insurance Plan (OHIP)*. Physicians bill OHIP for each patient they treat. This database captures information on every claim, including date of service, type of services or procedures provided, associated diagnosis, patient and physician identification numbers, and physician specialty type. This was used to identify service encounters (visits).
- *Corporate Provider Database*. Contains data about health care providers and organizations in Ontario.
- *Registered Persons Database (RPDB)*. Used to collect and maintain information about individuals who are registered with OHIP. Contains demographic information such as age, sex and residential postal code.

### Canadian Institute for Health Information (CIHI) Databases

- *Discharge Abstract Database (DAD)*. Contains clinical, demographic and administrative data for any patient discharged from a hospital. The information recorded includes: physician specialty, procedures received, diagnostic codes, residential postal code, age and sex.
- *National Ambulatory Care Reporting System (NACRS)*. Contains demographic characteristics, diagnostic and procedure codes for patients visiting emergency departments or having day surgery in Ontario hospitals.

## Physician care for musculoskeletal conditions

**Figure 4: Proportion of persons with visits to all physicians for musculoskeletal conditions by service setting and condition groups, Central LHIN and Ontario, 2006/07**



- ✦ 40% of ambulatory visits for a musculoskeletal condition by Central LHIN residents were made for arthritis and related conditions, compared to 41% in Ontario.
- ✦ The majority of inpatient and day surgeries for Central LHIN residents were for arthritis and related conditions (68% and 67% respectively). Similar values are seen for Ontario residents.

Data Sources: OHIP, DAD, NACRS

**Table 1: Number and percent distribution of persons with visits for musculoskeletal conditions to all physicians by service setting, Central LHIN, 2006/07**

	Ambulatory		Emergency Department		Inpatient Hospitalizations		Day Surgeries	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)
<b>Arthritis and related</b>	<b>178,385</b>	<b>39.7</b>	<b>9,974</b>	<b>28.4</b>	<b>4,083</b>	<b>68.5</b>	<b>4,733</b>	<b>67.4</b>
Rheumatoid arthritis	9,356	2.1	57	0.2	89	1.5	23	0.3
Osteoarthritis	64,037	14.3	688	2.0	2,791	46.8	651	9.3
Joint derangement	16,436	3.7	244	0.7	296	5.0	2,100	29.9
Other arthritis	112,518	25.1	9,059	25.8	936	15.7	1,891	26.9
<b>Trauma and related</b>	<b>148,882</b>	<b>33.2</b>	<b>14,963</b>	<b>42.6</b>	<b>825</b>	<b>13.8</b>	<b>344</b>	<b>4.9</b>
Fractures/dislocations	26,036	5.8	6,835	19.5	748	12.6	227	3.2
Strains/sprains	128,975	28.7	8,206	23.4	77	1.3	117	1.7
<b>Bone and joint</b>	<b>248,672</b>	<b>55.4</b>	<b>11,527</b>	<b>32.8</b>	<b>1,104</b>	<b>18.5</b>	<b>2,111</b>	<b>30.1</b>
Spine	84,394	18.8	7,668	21.8	479	8.0	755	10.8
Bone	62,977	14.0	577	1.6	439	7.4	751	10.7
Unspecified bone & joint	130,972	29.2	3,445	9.8	190	3.2	624	8.9
<b>Musculoskeletal conditions</b>	<b>448,864</b>	<b>100.0</b>	<b>35,138</b>	<b>100.0</b>	<b>5,959</b>	<b>100.0</b>	<b>7,022</b>	<b>100.0</b>

Numbers in columns and/or rows do not add up to total since persons may visit for more than one condition and more than one setting.

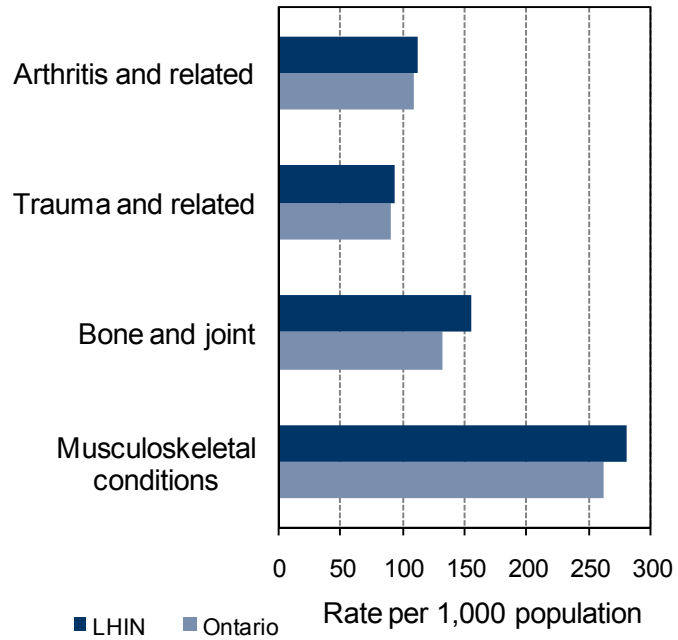
- ✦ There is variation in the most common type of musculoskeletal diagnosis across service setting. Of all Central LHIN residents who received inpatient care or day surgery, the most common musculoskeletal conditions group was arthritis and related conditions (68.5% and 67.4% respectively). Bone and joint conditions were more common in ambulatory care settings (55.4%) and trauma was most common in emergency departments (42.6%).
- ✦ For comparable Ontario data refer to [Table 17](#).

Data Sources: OHIP, DAD, NACRS

## Ambulatory care for musculoskeletal conditions

**Figure 5: Ambulatory person-visit rate per 1,000 population by condition groups, Central LHIN and Ontario, 2006/07**

- ✦ Out of every 1,000 Central LHIN residents, 279.7 made at least one visit to a physician for a musculoskeletal condition in 2006/07. The Ontario visit-rate was 261.3.
- ✦ The person-visit rate varied by condition groups: 111.1 per 1,000 population for arthritis and related conditions, 92.8 per 1,000 population for trauma and related conditions and 154.9 per 1,000 population for bone and joint conditions.



Data Sources: OHIP

**Table 2: Ambulatory visits to all physicians for musculoskeletal conditions, Central LHIN, 2006/07**

	Persons visiting per 1,000 population							Ratio: Women /Men	# of visits ('000)	Mean # visits per person
	Age Groups					Sex				
	All	0-14	15-44	45-64	65+	Women	Men			
<b>Arthritis and related</b>	<b>111.1</b>	<b>29.5</b>	<b>70.8</b>	<b>169.8</b>	<b>270.7</b>	<b>127.0</b>	<b>92.3</b>	<b>1.4</b>	<b>376</b>	<b>2.1</b>
Rheumatoid arthritis	5.8	0.9	2.4	9.5	18.9	8.2	3.3	2.5	27	2.9
Osteoarthritis	39.9	1.1	10.3	62.5	169.1	49.8	28.9	1.7	127	2.0
Joint derangement	10.2	1.9	8.8	15.5	17.3	10.2	10.0	1.0	83	5.0
Other arthritis	70.1	26.0	54.4	108.3	117.4	77.6	60.8	1.3	146	1.3
<b>Trauma and related</b>	<b>92.8</b>	<b>56.3</b>	<b>84.7</b>	<b>117.4</b>	<b>127.9</b>	<b>96.1</b>	<b>87.0</b>	<b>1.1</b>	<b>269</b>	<b>1.8</b>
Fractures/dislocations	16.2	21.3	12.1	14.4	28.5	15.4	16.6	0.9	56	2.1
Strains/sprains	80.4	38.7	75.6	107.1	105.5	84.4	74.2	1.1	213	1.7
<b>Bone and joint</b>	<b>154.9</b>	<b>62.8</b>	<b>124.7</b>	<b>215.3</b>	<b>287.1</b>	<b>177.5</b>	<b>128.2</b>	<b>1.4</b>	<b>497</b>	<b>2.0</b>
Spine	52.6	7.5	46.4	77.5	93.0	56.9	46.9	1.2	158	1.9
Bone	39.2	22.5	20.3	55.8	104.3	52.3	25.1	2.1	120	1.9
Unspecified bone & joint	81.6	35.0	69.4	112.2	135.8	91.5	69.5	1.3	219	1.7
<b>Musculoskeletal</b>	<b>279.7</b>	<b>133.2</b>	<b>228.6</b>	<b>376.2</b>	<b>500.3</b>	<b>308.2</b>	<b>243.7</b>	<b>1.3</b>	<b>1,141</b>	<b>2.5</b>

- ✦ Among specific arthritis and related conditions, the person-visit rate for Central LHIN residents was highest for osteoarthritis (39.9 per 1,000 population). Among trauma and related conditions, the most common reason for making at least one visit to a physician was strains and sprains (80.4 per 1,000 population). Generally, person-visit rates increased with age for all condition groups.
- ✦ Rates were higher for women than men for arthritis and related conditions and bone and joint conditions (1.4 times as many women making visits as men). Person-visit rates were slightly higher for women than men for trauma and related conditions (1.1 times as many women making visits as men).
- ✦ The mean number of visits was 2.1 for all arthritis and related conditions, 1.8 for trauma and 2.0 for bone and joint conditions.
- ✦ For comparable Ontario data refer to [Table 18](#).

Data Sources: OHIP, RPDB

**Table 3: Persons with ambulatory visits for musculoskeletal conditions by type of physician consulted, Central LHIN, 2006/07**

	All physicians (Number)	Primary Care (%)	All specialists (%)	Medical Specialists			Surgical Specialists	
				All (%)	Rheumatologists (%)	Internists (%)	All (%)	Orthopaedics (%)
<b>Arthritis and related</b>	<b>178,385</b>	<b>78.1</b>	<b>34.3</b>	<b>21.2</b>	<b>12.5</b>	<b>2.1</b>	<b>15.6</b>	<b>11.9</b>
Rheumatoid arthritis	9,356	53.6	60.4	58.6	50.6	4.8	3.4	1.8
Osteoarthritis	64,037	78.7	31.3	17.8	12.6	2.0	15.7	15.1
Joint derangement	16,436	52.8	49.2	4.8	0.8	0.2	44.7	40.9
Other arthritis	112,518	77.2	29.4	20.2	9.8	1.9	10.3	5.2
<b>Trauma and related</b>	<b>148,882</b>	<b>78.7</b>	<b>27.2</b>	<b>5.4</b>	<b>0.2</b>	<b>0.6</b>	<b>23.0</b>	<b>19.6</b>
Fractures/dislocations	26,036	35.9	73.4	3.7	0.2	0.5	70.6	56.6
Strains/sprains	128,975	85.2	19.4	5.5	0.1	0.6	15.7	11.9
<b>Bone and joint</b>	<b>248,672</b>	<b>88.3</b>	<b>18.4</b>	<b>13.3</b>	<b>2.1</b>	<b>3.1</b>	<b>6.3</b>	<b>4.0</b>
Spine	84,394	89.4	16.5	10.8	1.6	1.0	6.7	5.1
Bone	62,977	75.2	29.4	23.4	2.5	8.9	8.2	2.9
Unspecified bone and joint	130,972	90.5	12.0	8.2	2.0	1.0	4.0	3.0
<b>Musculoskeletal</b>	<b>448,864</b>	<b>87.2</b>	<b>29.5</b>	<b>16.1</b>	<b>5.9</b>	<b>2.6</b>	<b>16.3</b>	<b>12.6</b>

Row proportions do not add to 100% because an individual may visit more than one type of physician in a year  
 - Data unavailable/insufficient cell size

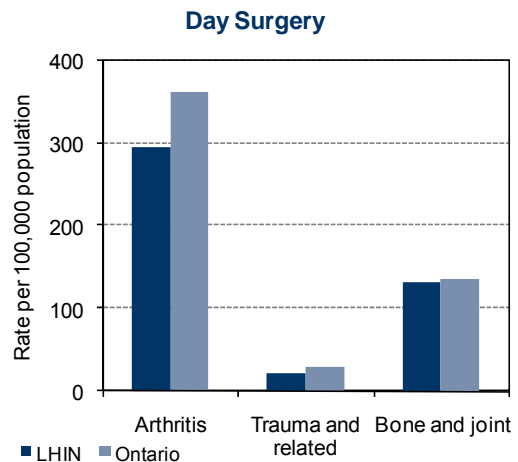
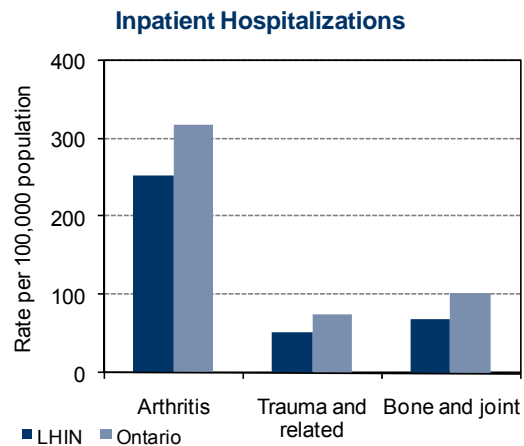
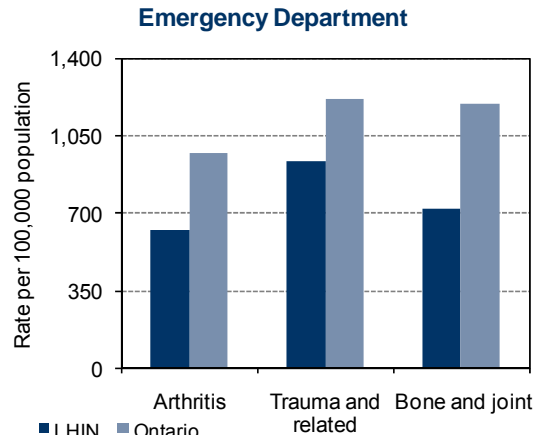
- ✦ 78.1% of Central LHIN residents with visits for arthritis and related conditions saw a primary care physician at least once; the proportion was similar for trauma and related conditions (78.7%). A higher proportion of residents visited for bone and joint conditions (88.3%).
- ✦ A higher proportion of persons with a visit for arthritis and related conditions saw a specialist (34.3%) compared to the other condition groups. Persons with bone and joint conditions were least likely to consult a specialist (18.4%). A higher proportion of persons with arthritis and related conditions saw a medical specialist (21.2%) compared to a surgical specialist (15.6%). As might be expected, a greater proportion of persons seeing physicians with trauma and related conditions saw more surgical specialists than medical specialists (23.0% and 5.4% respectively). For comparable Ontario data refer to the [Table 19](#).

Data Sources: OHIP, RPDB

## Hospital care for musculoskeletal conditions

**Figure 6: Person-visit rate per 100,000 population by hospital setting, Central LHIN and Ontario, 2006/07**

- ✦ Overall, the person-visit rate for Central LHIN residents to emergency departments was higher than that for hospitalizations or day surgeries.
- ✦ In the emergency department, person-visit rates were highest for trauma and related conditions (932.3 per 100,000 population).
- ✦ Rates for inpatient hospitalizations and day surgeries were highest for arthritis and related conditions (254.4 and 294.9 per 100,000 population, respectively).
- ✦ Rates in Ontario were generally higher.



NOTE: Person-visit rate is interpreted as either: number of LHIN residents with at least one visit to emergency departments; the number of LHIN residents with at least one inpatient hospitalization; or the number of LHIN residents with at least one day surgery.

Data Sources: DAD, NACRS

**Table 4: Rate per 100,000 population of persons visiting emergency departments, with inpatient hospitalizations and day surgeries, Central LHIN, 2006/07**

- ✦ In Central LHIN, the highest person-visit rates for specific conditions in the emergency department were for treatment of strains/sprains, spine conditions and fractures/dislocations.
- ✦ Inpatient hospitalization rates were highest for osteoarthritis and day surgery rates were highest for joint derangement.
- ✦ For comparable Ontario data refer to [Table 20](#).

	Emergency Department	Inpatient	Day Surgery
<b>Arthritis and related</b>	<b>621.5</b>	<b>254.4</b>	<b>294.9</b>
Rheumatoid arthritis	3.6	5.5	1.4
Osteoarthritis	42.9	173.9	40.6
Joint derangement	15.2	18.4	130.8
Other arthritis	564.4	58.3	117.8
<b>Trauma and related</b>	<b>932.3</b>	<b>51.4</b>	<b>21.4</b>
Fractures/dislocations	425.9	46.6	14.1
Strains/sprains	511.3	4.8	7.3
<b>Bone and joint</b>	<b>718.2</b>	<b>68.8</b>	<b>131.5</b>
Spine	477.8	29.8	47.0
Bone	36.0	27.4	46.8
Unspecified bone & joint	214.6	11.8	38.9
<b>Musculoskeletal</b>	<b>2,189.4</b>	<b>371.3</b>	<b>437.5</b>

Data Sources: DAD, NACRS



**Table 5: Rate per 100,000 population of persons with visits to emergency departments for musculoskeletal conditions, Central LHIN, 2006/07**

	Persons visiting per 100,000 population							Ratio: Women/ Men
	Age Groups					Sex		
	All ages	0-14	15-44	45-64	65+	Women	Men	
Arthritis and related	621.5	235.7	464.9	789.5	1,483.4	652.4	589.7	1.1
Trauma and related	932.3	1,335.8	908.0	658.7	999.9	909.3	955.9	1.0
Bone and joint	718.2	223.3	683.0	872.1	1,301.5	744.5	691.2	1.1
<b>Musculoskeletal</b>	<b>2,189.4</b>	<b>1,761.7</b>	<b>1,981.7</b>	<b>2,228.8</b>	<b>3,609.6</b>	<b>2,222.3</b>	<b>2,155.5</b>	<b>1.1</b>

- ✦ In emergency departments, the highest person-visit rates among 0-14 year olds are for trauma and related conditions (1,335.8 per 100,000 population) whereas the highest rates among the elderly are for arthritis and related conditions (65+; 1,483.4 per 100,000 population). Overall, trauma and related conditions have the highest rate (932.3 per 100,000 population across all age groups).
- ✦ For comparable Ontario data refer to **Table 21**.

Data Sources: NACRS

**Table 6: Rate per 100,000 population of persons with inpatient hospitalizations for musculoskeletal conditions, Central LHIN, 2006/07**

	Persons with inpatient hospitalizations per 100,000 population							Ratio: Women/ Men
	Age Groups					Sex		
	All ages	0-14	15-44	45-64	65+	Women	Men	
Arthritis and related	254.4	28.0	58.7	307.6	1,275.7	297.8	209.8	1.5
Trauma and related	51.4	51.4	33.2	38.0	153.8	53.5	49.3	1.1
Bone and joint	68.8	18.6	38.0	91.8	219.8	73.6	63.8	1.2
<b>Musculoskeletal</b>	<b>371.3</b>	<b>96.6</b>	<b>129.0</b>	<b>433.2</b>	<b>1,635.6</b>	<b>421.1</b>	<b>320.1</b>	<b>1.4</b>

- ✦ Arthritis and related conditions have the highest rate among the elderly (1,275.7 per 100,000 people).
- ✦ Rates were similar for men and women in every condition group, though women had higher rates for arthritis and related conditions.
- ✦ For comparable Ontario data refer to [Table 22](#).

Data Sources: DAD

**Table 7: Rate per 100,000 population of persons with day surgeries for musculoskeletal conditions, Central LHIN, 2006/07**

	Persons with day surgeries per 100,000 population							Ratio: Women/ Men
	Age Groups					Sex		
	All ages	0-14	15-44	45-64	65+	Women	Men	
Arthritis and related	294.9	54.5	212.2	554.7	425.2	279.8	310.4	0.9
Trauma and related	21.4	16.9	23.4	20.6	22.5	17.8	25.1	0.7
Bone and joint	131.5	10.7	78.4	209.8	360.4	150.9	111.7	1.4
<b>Musculoskeletal</b>	<b>437.5</b>	<b>47.6</b>	<b>311.3</b>	<b>777.9</b>	<b>798.8</b>	<b>432.9</b>	<b>442.3</b>	<b>1.0</b>

- ✦ Arthritis and related conditions have the highest rates across all age groups.
- ✦ For comparable Ontario data refer to [Table 23](#).

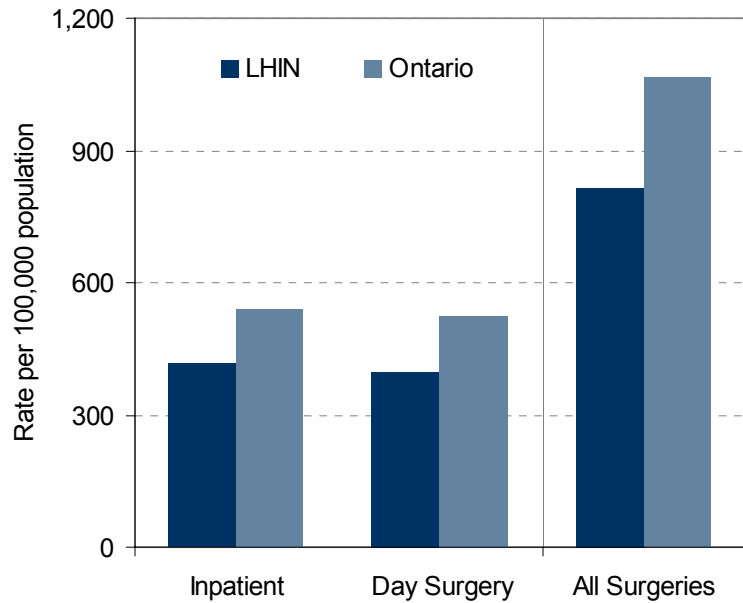
Data Sources: NACRS

## Orthopaedic surgery for musculoskeletal conditions

### A. Surgery provided to LHIN residents<sup>‡</sup>

**Figure 7: Number of orthopaedic surgeries for musculoskeletal conditions per 100,000 population by service setting, Central LHIN and Ontario, 2006/07**

✦ Over 13,000 (814.0 per 100,000 population) orthopaedic surgeries for musculoskeletal conditions were performed on Central LHIN residents. Of those 6,350 (48.6%) were day surgeries.



Data Sources: DAD, NACRS

<sup>‡</sup> LHIN residents regardless of where the surgery took place

**Table 8: Number of selected types of orthopaedic surgeries for musculoskeletal conditions performed on residents of Central LHIN and Ontario, 2006/07**

✦ In Central LHIN, joint replacement was the most common surgery performed followed by closed repairs. This was the case in the province as a whole.

Numbers in columns do not add up to total since persons may have more than one type of surgery

	Number of Surgeries	Number per 100,000 population	
		LHIN	Ontario
<b>Joint Replacement</b>	<b>3,152</b>	<b>196.4</b>	<b>254.8</b>
Hip	1,073	66.9	86.1
Knee	1,909	118.9	154.3
Other	170	10.6	14.5
<b>Closed Repair</b>	<b>2,889</b>	<b>180.0</b>	<b>237.6</b>
<b>Reduction with or without fixation</b>	<b>1,051</b>	<b>65.5</b>	<b>98.4</b>
<b>All surgeries</b>	<b>13,064</b>	<b>814.0</b>	<b>1,065.1</b>

Data Sources: DAD, NACRS

**Table 9: Number of orthopaedic surgeries for musculoskeletal conditions by anatomic location performed on residents of Central LHIN and Ontario, 2006/07**

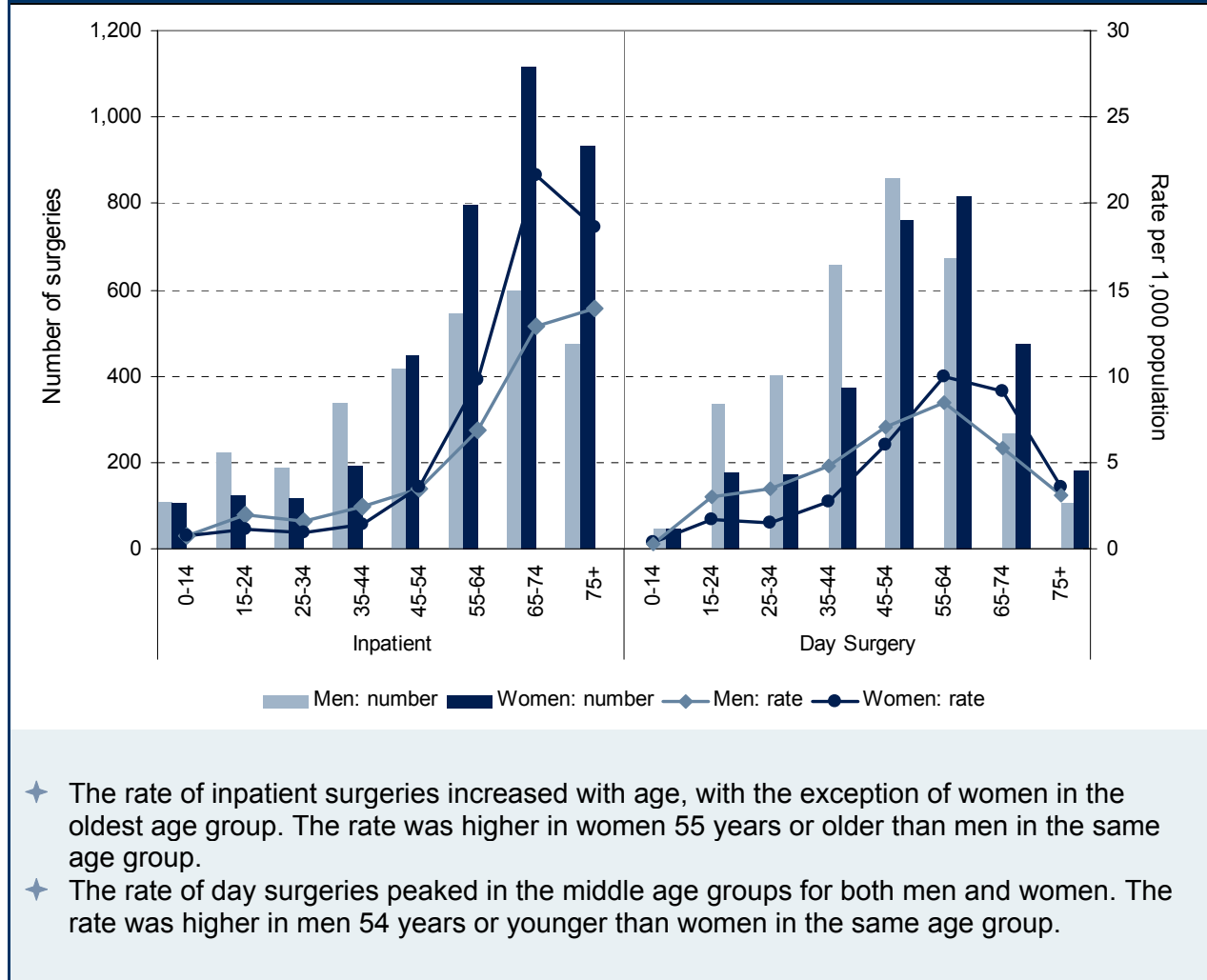
	<u>All surgeries</u>			<u>Inpatient Surgeries</u>			<u>Day Surgeries</u>		
	Number of Surgeries	Number per 100,000 population		Number of Surgeries	Number per 100,000 population		Number of Surgeries	Number per 100,000 population	
		LHIN	Ontario		LHIN	Ontario		LHIN	Ontario
Hip	1,326	82.6	109.3	1,301	81.1	106.0	25	1.6	3.3
Knee	6,135	382.3	498.5	3,015	187.9	219.5	3,120	194.4	279.0
Spine	876	54.6	58.0	757	47.2	53.7	119	7.4	4.3
Upper limb*	3,233	201.4	291.4	1,299	80.9	128.7	1,934	120.5	162.6
Foot and Ankle	1,494	93.1	108.0	345	21.5	33.0	1,149	71.6	75.0
<b>All surgeries</b>	<b>13,064</b>	<b>814.0</b>	<b>1,065.1</b>	<b>6,717</b>	<b>418.5</b>	<b>540.9</b>	<b>6,347</b>	<b>395.5</b>	<b>524.2</b>

\* Includes shoulder, elbow, hand and wrist.

- ✦ The most common joint operated on was the knee, followed by the upper limb (shoulder, hand and wrist), foot and hip.
- ✦ Surgeries of the knee, foot and ankle and upper limb were most common as day surgeries.

Data Sources: DAD, NACRS

**Figure 8: Number of orthopaedic surgeries for musculoskeletal conditions per 1,000 residents by age groups, sex and service setting, Central LHIN, 2006/07**

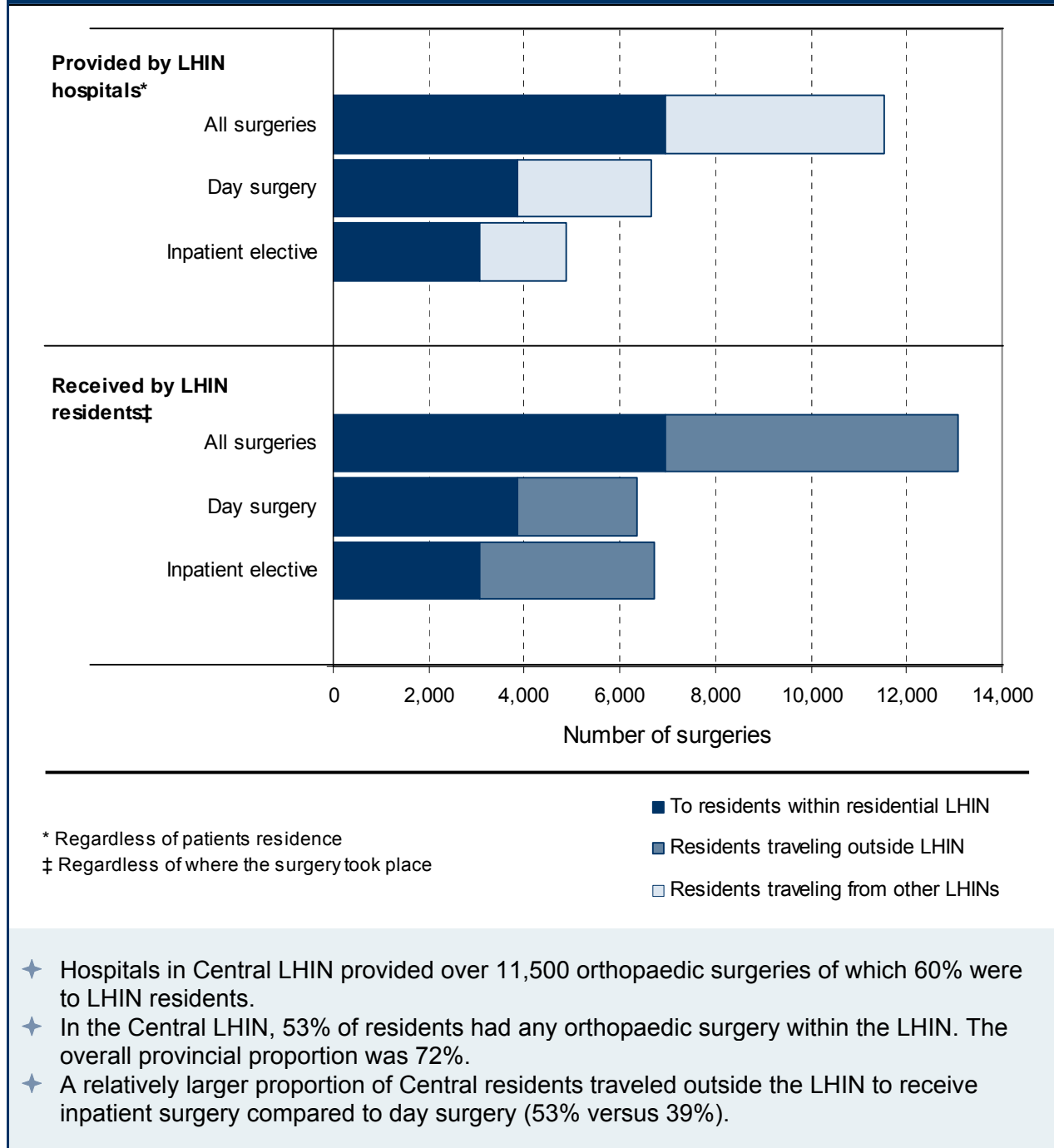


- ✦ The rate of inpatient surgeries increased with age, with the exception of women in the oldest age group. The rate was higher in women 55 years or older than men in the same age group.
- ✦ The rate of day surgeries peaked in the middle age groups for both men and women. The rate was higher in men 54 years or younger than women in the same age group.

Data Sources: DAD, NACRS

## B. Surgery provided by LHIN hospitals

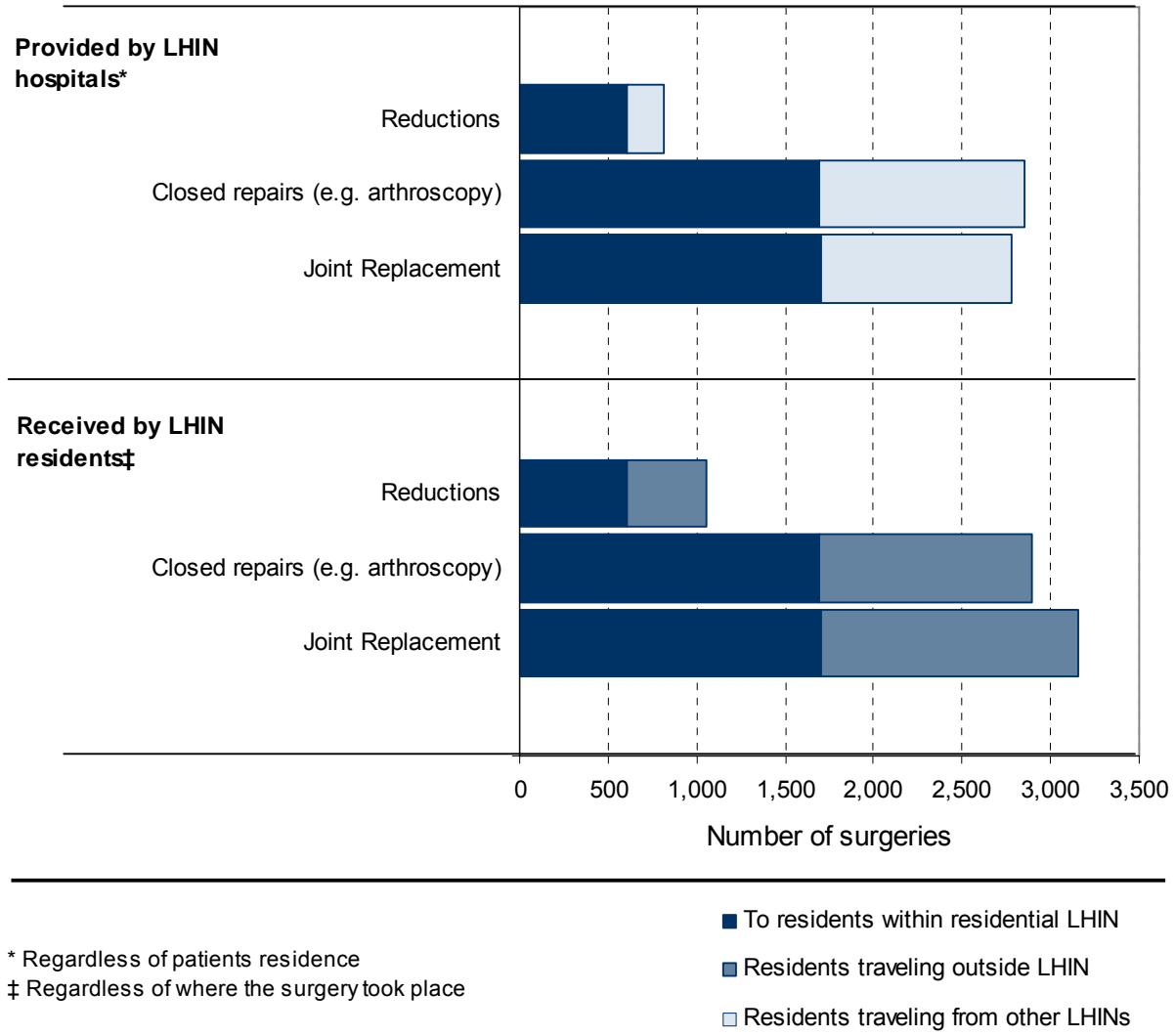
**Figure 9: Number of orthopaedic surgeries for musculoskeletal conditions provided by LHIN hospitals\* and received by LHIN residents†, Central LHIN, 2006/07**



Data Sources: DAD, NACRS



**Figure 10: Number of selected types of orthopaedic surgeries for musculoskeletal conditions provided by LHIN hospitals\* and received by LHIN residents‡, Central LHIN, 2006/07**



\* Regardless of patients residence  
‡ Regardless of where the surgery took place

■ To residents within residential LHIN  
■ Residents traveling outside LHIN  
■ Residents traveling from other LHINs

- ✦ A larger proportion (73%) of reduction with or without fixation provided by this LHIN hospitals were to LHIN residents compared to joint replacement (61%) or closed repair (59%).
- ✦ Similar proportions of patients traveled to another LHIN to receive joint replacement (46%) or closed repair (41%).

Data Sources: DAD, NACRS

## Proportion of LHIN residents who receive surgery after consulting with an orthopaedic surgeon

Ambulatory and hospital discharge databases were linked to examine the proportion of a cohort of individuals consulting orthopaedic surgeons in ambulatory settings (presumed eligible for orthopaedic surgery) who have subsequent orthopaedic surgery.

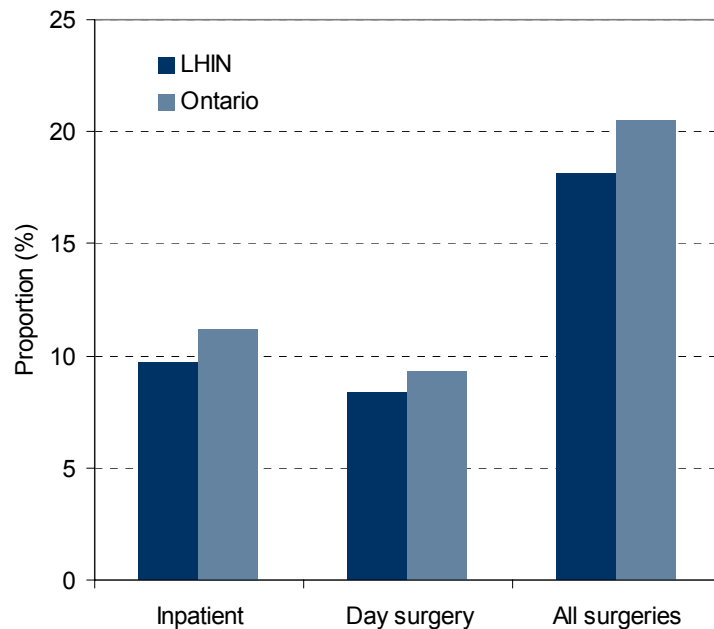
### Data Source

The study cohort was drawn from the 521,156 Ontarians who visited orthopaedic surgeons from October 1<sup>st</sup>, 2004 to September 30<sup>th</sup>, 2005. Individuals who had surgery without a prior ambulatory visit, and those who had orthopaedic surgery within six months prior to their initial ambulatory visit (where this was likely to be a post-surgical follow-up visit) were excluded. Methodological details are available in ACREU's [Working Paper 08-04](#).

**Figure 11: Proportion of individuals\* with orthopaedic surgery following ambulatory visits to 2004-2007**

✦ In Central LHIN, 18.1% of individuals (presumed to be eligible for orthopaedic surgery) consulting with orthopaedic surgeons had surgery. The proportion in the province was 20.5%.

\* Presumed eligible for orthopaedic surgery. Surgery was within 18 months of initial ambulatory visit to orthopaedic surgeons.



Data Sources: DAD, NACRS

**Table 10: Proportion of individuals\* with orthopaedic surgery following initial ambulatory visit to orthopaedic surgeons by condition groupings, Central LHIN and Ontario, 2004-2007**

	Number of LHIN residents with ambulatory visits to orthopaedic surgeons	Proportion (%) with orthopaedic surgery	
		LHIN	Ontario
<b>Arthritis and related</b>	<b>19,467</b>	<b>26.4</b>	<b>28.6</b>
Osteoarthritis	7,492	33.4	33.8
Joint Derangement	6,099	28.2	30.4
Other arthritis	6,787	14.7	17.0
<b>Trauma and related</b>	<b>28,225</b>	<b>12.2</b>	<b>13.2</b>
Fractures and dislocations	14,345	17.6	18.5
Sprains and Strains	13,517	6.4	7.7
<b>Bone and Joint</b>	<b>11,181</b>	<b>16.3</b>	<b>17.5</b>
Spine	4,258	10.9	12.7
Bone	1,570	24.6	25.0
Unspecified bone and joint	5,616	17.9	18.3
<b>Musculoskeletal conditions</b>	<b>53,790</b>	<b>18.1</b>	<b>20.5</b>

\* Presumed eligible for orthopaedic surgery. Surgery was within 18 months of initial ambulatory visit to orthopaedic surgeons.

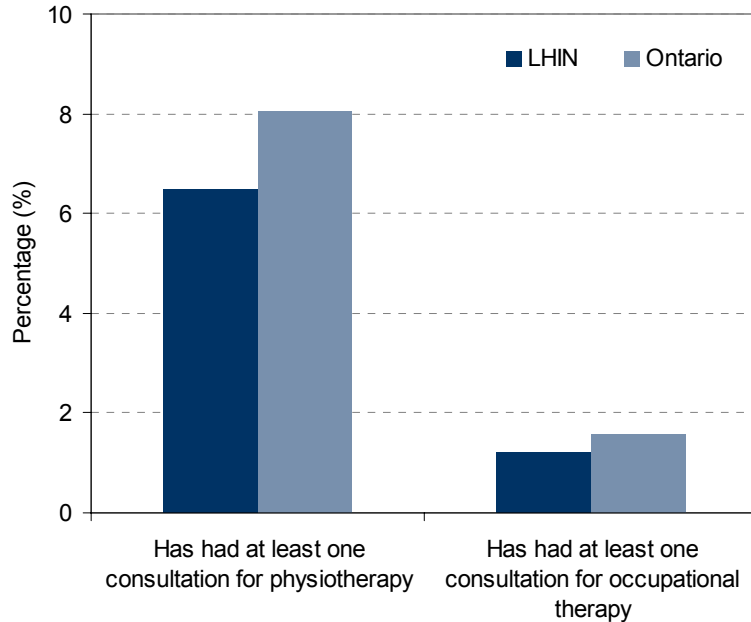
- ✦ The proportion varied according to the reason for the ambulatory visit: 33.4% of those with visits for osteoarthritis (predominantly total joint replacement surgery), 28.2% of those with visits for joint derangement (mainly arthroscopic surgery) and 24.6 % of those with visits for bone disorders (mainly foot and ankle surgery).
- ✦ Similar pattern was seen in the province as a whole.

Data Sources: OHIP, DAD, NACRS

## Utilization of occupational therapy and physiotherapy

**Figure 12: Self-reported prevalence of consulting physiotherapists and occupational therapists, Central LHIN and Ontario, 2005**

- ✦ 6.5% of the Central LHIN population reported at least one consultation with a physiotherapist, compared to 8.1% in Ontario.
- ✦ 1.2% of Central LHIN residents reported at least one consultation with an occupational therapist, speech language pathologist or audiologist compared to 1.6% in Ontario.



Data Source: Canadian Community Health Survey Cycle 3.1

# Health Human Resources for Musculoskeletal Conditions

This section provides information related to the availability of health human resources for musculoskeletal conditions. Details relating to the provision of rheumatology, orthopaedic, physiotherapy and occupational therapy services are provided. Data for chiropractors, dieticians and other health professionals are not reported here.

## Data Sources

- The ACREU survey of rheumatologists in Ontario ([Working Paper 08-03](#)). A total of 164 practicing rheumatologists were identified in Ontario in 2007: 152 responded to a two-part questionnaire (response rate 93%).
- The ACREU survey of orthopaedic surgeons in Ontario ([Working Paper 07-03](#)). A total of 396 practicing orthopaedic surgeons were identified in Ontario in 2006: 359 responded to a two-part survey relating to location and nature of practice (91% response rate).
- The ACREU working paper Community Rehabilitation Profiles in Ontario ([Working Paper 07-01](#)) conducted in 2006.
- Ontario Physician Human Resources Data Centre, 2007 (<http://www.ophrdc.org>).

## Availability of physician services

### A. Primary care physicians

**Table 11: Number of active primary care physicians in Central LHIN and Ontario, 2007**

- ✦ Central LHIN had 235 active primary care physicians per 100,000 population.
- ✦ In Ontario there are approximately 87 per 100,000 population active primary care physicians.

NOTE: The number of primary care physicians is not representative of the number physicians involved in patient care full-time.

	LHIN	Ontario
<b># of primary care physicians</b>	<b>1,308</b>	<b>10,958</b>
<b># of primary care physicians per 100,000 population</b>	<b>234.5</b>	<b>86.6</b>

Data Source: Ontario Physician Human Resources Data Centre, 2007

## B. Orthopaedic services

**Table 12: Number of practicing orthopaedic surgeons and work hours, Central LHIN and Ontario, 2006**

- ✦ In the Central LHIN there were 2 orthopaedic surgeons per 100,000 population, while Ontario had 3.
- ✦ In the Central LHIN, 83 hours per week of direct clinical time per 100,000 population was provided by orthopaedic surgeons, while across Ontario, 112 hours per week of direct clinical time per 100,000 population was provided.
- ✦ Direct clinical care in Central was comprised of 44 hours of office time per week, 23 hours of surgery time and 17 hours per week of working on call per 100,000 population.

	LHIN	Ontario
<b># of orthopaedic surgeons</b>	<b>31</b>	<b>359</b>
# of orthopaedic surgeons (per 100,000 population)	2.0	2.9
<b>Hours of direct clinical care per week (per 100,000 population)</b>	<b>83.3</b>	<b>111.6</b>
Office hours	43.6	56.3
Surgery hours	23.0	33.2
Time working on call	16.7	22.1

Data Source: 2006 Ontario Survey of Orthopaedic Surgeons, ACREU

### C. Rheumatology services

**Table 13: Number of practicing rheumatologists and work hours, Central LHIN and Ontario, 2007**

- ✦ There were 17 rheumatologists with primary practices based in the Central LHIN.
- ✦ The overall provincial per capita provision was 1.2 rheumatologists per 100,000 population.
- ✦ The overall amount of direct clinical care provided by rheumatologists was 38.5 hours per week per 100,000 population in this LHIN, while in Ontario was 38.3 hours.

	LHIN	Ontario
<b># of practicing rheumatologists</b>	<b>17</b>	<b>152</b>
Rheumatologists based in this LHIN only	1.1	NA
All rheumatologists (including those coming from other LHINs)	1.7	1.2
<b>Office hours per week (per 100,000 population)</b>	<b>38.5</b>	<b>38.3</b>
<b>Mean waiting time, reported by rheumatologist (weeks)</b>		
Likely inflammatory	2.8	3.6
Non-Urgent	11.6	13.4

## Availability of community rehabilitation services

**Table 14: Number of physiotherapists and occupational therapists, Central LHIN and Ontario, 2006**

- ✦ There were approximately 580 (39 per 100,000 population) and 5,300 (43 per 100,000 population) physiotherapists registered for independent practice and working in the Central LHIN and the province of Ontario respectively.
- ✦ There were approximately 580 (38 per 100,000 population) and 3,900 (31 per 100,000 population) occupational therapists registered for independent practice in the Central LHIN and Ontario respectively.

	LHIN	Ontario
<b># of physiotherapists</b>	<b>579</b>	<b>5,319</b>
# per 100,000 population	38.5	43.4
<b># of occupational therapists</b>	<b>575</b>	<b>3,861</b>
# per 100,000 population	38.2	31.2

Data Sources: The College of Occupational Therapists of Ontario and The College of Physiotherapists of Ontario



**Table 15: Availability of occupational therapy and physiotherapy services in different settings, Central LHIN and Ontario, 2006**

Community Rehabilitation Settings	Occupational Therapy		Physiotherapy	
	# of clinics	Average # of FTE <sup>1</sup> s/clinic	# of clinics	Average # of FTEs/clinic
Arthritis Rehabilitation and Education Program Clinics (TAS AREP)†	9	0.7	***Primary therapist (OT or PT) model of service delivery. See values under occupational therapy ***	
Community Health Centres (CHC) ‡	0	0.0	0	0.0
Designated Physiotherapy Clinics (DPC)*	Not Applicable		16	1.6
Hospital Day Department (OPD)*	6	0.3*	7	5.9*
Private Clinics	94	...	119	...

1 FTE – Full-time equivalent  
 ... Data unavailable/insufficient cell size

✦ In the Central LHIN, most publicly funded occupational therapy clinics are in TAS AREP clinics, while the most for physiotherapy are in designated physiotherapy clinics. No Community Health Centres offer community rehabilitation services.

Data Sources: †The Ontario Arthritis Society; ‡Association of Ontario Health Centres; \* Ontario Community Rehabilitation Wait Time Survey (ACREU)

**Table 16: Access to community rehabilitation services, Central LHIN and Ontario, 2005**

- ✦ The majority of community rehabilitation settings are privately funded in the Central LHIN as well as in Ontario.
- ✦ In Central, there are 6 times as many privately funded community occupational therapy clinics as publicly funded (6.3 to 1.0) and 4 times as many privately funded physiotherapy clinics as publicly funded settings (3.7 to 1.0).
- ✦ In 2005, the median wait time for publicly funded occupational and physiotherapy services was 15 days in Ontario.

	LHIN	Ontario
Median wait time for publicly-funded OT or PT (in days)	0.0	15.0
Percent of publicly-funded OT or PT clinics with hours of operation outside normal business hours†	...	31.0
Ratio of private to public clinics providing OT services <sup>1</sup>	6.3	2.2
Ratio of private to public clinics providing PT services <sup>2</sup>	3.7	2.9

...Data unavailable/insufficient cell size  
 †Normal business hours: Monday to Friday (7:00am to 5:00pm)  
<sup>1</sup>Ratio of private to public clinics = # of private clinics /  $\sum$  (TAS AREP+CHC+OPD)  
<sup>2</sup>Ratio of private to public clinics = # of private clinics /  $\sum$  (TAS AREP+CHC+DPC+OPD)

Data Sources: Ontario Community Rehabilitation Wait Time Survey (ACREU)

## Glossary of Terms

### Burden of musculoskeletal care

*Self-reported arthritis:* The presence of arthritis and other chronic conditions was determined using the lead-in statement: “We are interested in long-term conditions that have lasted or are expected to last six months or longer and that have been diagnosed by a health professional. Do you have...”.

*Back problems:* The presence of back problems was determined using the lead-in statement: “We are interested in long-term conditions that have lasted or are expected to last six months or longer and that have been diagnosed by a health professional. Do you have...”.

*Repetitive strain injury:* Respondents were told that a repetitive strain injury refers to “injuries caused by overuse or by repeating the same movement frequently”, and were then asked “In the past 12 months, that is, from [date one year ago] to yesterday, did you have any injuries due to repetitive strain which were serious enough to limit your normal activities?”

*Injury:* Respondents were asked about the type of injury they had, if any. Those respondents with broken or fractured bones, dislocation, sprain or strain, or concussion/other brain injury were classified as having an injury that may be attended to by a rehabilitation professional.

*Self-reported activity limitation:* Respondents were asked whether they had any difficulty with activities including walking, climbing stairs, bending or similar activities or had reduced their activities at home, work or school or other activities, such as leisure or transportation due to disease or illness. Each response is measured as an ordinal outcome: sometimes, often or never. Respondents were categorized as having an activity limitation if they responded positively (sometimes/often) to any of the above.

### Care for musculoskeletal conditions

*Service setting:* Ambulatory or hospital (inpatient, day surgery or emergency department).

*Encounter:* An encounter is a visit to an orthopaedic surgeon where medical care was provided.

*Hospital encounter:* A hospital encounter is a visit to an Emergency Department, an admission as inpatient (one hospital stay was considered one encounter) or a same day surgery.

*Ambulatory encounter:* An ambulatory encounter is a visit to a physician in his/her office.

*Condition groups:* Using OHIP and CIHI databases, the following condition groups were used:

Arthritis and related conditions: Includes osteoarthritis, rheumatoid arthritis, synovitis, ankylosing spondylitis, unspecified soft tissue disorders, connective tissue disorders,

joint derangements and other arthritis. Disseminated lupus erythematosus, scleroderma, dermatomyositis and polyarteritis were joined to form a single group of connective tissue diseases. The other arthritis and related conditions group comprised a number of relatively infrequent conditions, the majority of which relate to deformity or malfunction of joints: recurrent dislocation, ankylosis, pyogenic arthritis, and traumatic arthritis.

Bone and joint conditions: Includes some disorders of the spine (e.g. lumbar strains, sciatica, scoliosis), conditions of the bone (e.g. osteomyelitis, osteoporosis, osteochondritis), conditions of the foot (e.g. corns and calluses, hallux vagus, hammer toe, ingrown nails and onychogryposis), and other musculoskeletal conditions.

Trauma and related conditions: Includes fractures and dislocations; strains and sprains.

*Orthopaedic surgery*: All orthopaedic surgical procedures recorded on the same patient, same date and the same body region. An orthopaedic surgeon has to be listed as one of the health care providers.

*Orthopaedic surgical procedure*: A surgical procedure code (Canadian Classification of Health Intervention (CCI)) in the musculoskeletal chapter recorded in the hospital databases. For more detailed information refer to the technical appendix in ACREU [Working Paper 07-02](#).

*Orthopaedic surgery groups*: Based on the admission category variable in the CIHI databases (DAD and NACRS): inpatient surgeries or day surgeries.

*Body region*: Using CIHI databases, body region was defined as follows:

Ankle and foot: Includes ankle joint, foot ligaments, tarsal bones, intertarsal joints, foot, tarsometatarsal joints, metatarsal bones, metatarsophalangeal joints, phalanx of foot, interphalangeal joints of toe, tendons of ankle and foot

Hand and wrist: Wrist joint, radioulnar and carpal joints, metacarpal bones, metacarpophalangeal joints, phalanx of hand, interphalangeal joint of hand, joints of finger and hand, tendons of finger and thumb, soft tissue wrist and hand

Shoulder and elbow: Shoulder joint, acromioclavicular and sternoclavicular joints, rotator cuff, arm muscles around shoulder, humerus, elbow joint, muscles of forearm, radius and ulna, clavicle, scapula

Hip: Hip joint, femur, muscles of hip and thigh

Knee: Knee joint, meniscus, cruciate ligaments, collateral ligaments, patella, tibia and fibula, muscles of lower leg, soft tissue of leg

Spine: Spinal vertebrae, intervertebral disc, sacrum and coccyx, atlas and axis, soft tissue of back, back

## Health human resources for musculoskeletal conditions

*Main practice location:* Respondents of the 2006 ACREU survey of orthopaedic surgeons ([Working Paper 07-03](#)) and 2007 survey of rheumatologists ([Working Paper 08-03](#)) were asked “Where is your major practice located?”. Responses included both the city name and postal code.

*Office hours:* Orthopaedic surgeons participating in the 2006 ACREU survey ([Working Paper 07-03](#)) were asked the “amount of office or clinic time devoted to treating patients”. Rheumatologists participating in the 2007 ACREU survey ([Working Paper 08-03](#)) were asked to “indicate the number of hours per week devoted to office time”.

*Surgical hours:* Orthopaedic surgeons participating in the 2006 ACREU survey ([Working Paper 07-03](#)) were asked the “amount of devoted elective OR time”.

*Working on call:* Orthopaedic surgeons participating in the 2006 ACREU survey ([Working Paper 07-03](#)) were asked the “amount of time ‘working’ on call”.

*Community-based rehabilitation:* Include publicly and privately funded settings where rehabilitation can be accessed by community dwelling individuals. Included are private clinics, Designated Physiotherapy Clinics (formerly known as Schedule 5 Physiotherapy Clinics), Community Care Access Centres, Community Health Centres, Hospital Day Rehabilitation Departments and The Arthritis Society Consultation and Rehabilitation Services.

*Community Health Centres (CHC):* Community Health Centres are delivered through publicly funded (MOH-LTC), community governed, not for profit organizations that provide primary health care, health promotion and community development services, using multi-disciplinary teams of health providers. These teams sometimes include occupational therapists and physiotherapists. Services are designed to meet the specific needs of the community surrounding the CHC. In many communities, CHCs provide their programs and services for people with difficulties accessing the full range of primary health-care services.

*Designated Physiotherapy Clinics (DPC):* Formerly known as Schedule 5 Ontario Health Insurance Plan (OHIP) Physiotherapy Clinics, these clinics are funded by the Ontario Ministry of Health and Long-Term Care through OHIP. In order to be eligible for this service, one must meet at least one of the following conditions: 1) be either under the age of 20 or age 65 and over; 2) a resident of a long-term care home at any age; 3) requiring physiotherapy services in home or after being hospitalized at any age, or, 4) a participant of the Ontario Disability Support Program, receiving Family Benefits and Ontario Works at any age.

*Hospital Day Rehabilitation Departments:* Many hospitals offer day occupational therapy and/or physiotherapy services. These services are usually funded through the hospital’s global budget. However a few clinics throughout Ontario hospitals exist as for-profit business entities or have contracted services to external providers.

*Occupational therapy (OT):* OTs are health professionals who help people or groups of people of all ages assume or reassume the skills they need for the job of living. OTs work with clients to help identify barriers to meaningful occupations (self care, work and leisure). While enabling

clients to change these barriers, occupational therapists fulfill the roles of therapist, educator, counselor, case manager, resource developer, policy analyst and advocate.

*Physiotherapy or physical therapy (PT):* PTs are first contact, autonomous, client-focused health professionals trained to: improve and maintain functional independence and physical performance; prevent and manage pain, physical impairments, disabilities and limits to participation; and promote fitness, health and wellness.

*The Arthritis Society Arthritis Rehabilitation and Education Program (TAS AREP):* This is a specialized program of The Arthritis Society where occupational therapists, physical therapists and social workers, who work throughout the province of Ontario and have advanced training in the assessment and management of arthritis. Patients may self-refer or be referred by a physician. Service is provided through clinics or if indicated, home visits can be arranged. This program is covered by the Ontario Health Insurance Plan.

## Appendix – Detailed Utilization Data for Ontario

**Table 17: Number and percent distribution of persons with visits for musculoskeletal conditions to all physicians by service setting, Ontario, 2006/07**

	Ambulatory		Emergency Department		Inpatient Hospitalizations		Day Surgeries	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)
<b>Arthritis and related</b>	<b>1,370,473</b>	<b>41.4</b>	<b>123,034</b>	<b>30.3</b>	<b>40,232</b>	<b>64.7</b>	<b>45,765</b>	<b>69.4</b>
Rheumatoid arthritis	82,504	2.5	881	0.2	831	1.3	381	0.6
Osteoarthritis	547,486	16.6	9,119	2.2	29,302	47.1	7,173	10.9
Joint derangement	138,544	4.2	3,155	0.8	1,863	3.0	22,753	34.5
Other arthritis	795,374	24.0	111,528	27.5	8,728	14.0	15,712	23.8
<b>Trauma and related</b>	<b>1,129,039</b>	<b>34.1</b>	<b>153,564</b>	<b>37.9</b>	<b>9,545</b>	<b>15.3</b>	<b>3,835</b>	<b>5.8</b>
Fractures/dislocations	219,095	6.6	65,163	16.1	9,010	14.5	2,663	4.0
Strains/sprains	964,521	29.2	89,324	22.0	541	0.9	1,135	1.7
<b>Bone and joint</b>	<b>1,673,443</b>	<b>50.6</b>	<b>150,785</b>	<b>37.2</b>	<b>12,867</b>	<b>20.7</b>	<b>17,175</b>	<b>26.1</b>
Spine	598,972	18.1	97,761	24.1	6,263	10.1	5,445	8.3
Bone	402,027	12.2	7,586	1.9	4,608	7.4	6,769	10.3
Unspecified bone & joint	902,528	27.3	48,855	12.0	2,149	3.5	5,105	7.7
<b>Musculoskeletal conditions</b>	<b>3,307,521</b>	<b>100.0</b>	<b>405,561</b>	<b>100.0</b>	<b>62,227</b>	<b>100.0</b>	<b>65,910</b>	<b>100.0</b>

Numbers in columns and/or rows do not add up to total since persons may visit for more than one condition and more than one setting.

★ There is variation in the most common type of musculoskeletal diagnosis across service setting. Of all Ontario residents who received inpatient care or same day surgery, the most common musculoskeletal conditions group was arthritis and related conditions (64.7% and 69.4% respectively). In ambulatory care, bone and joint conditions were more common (50.6%) whereas trauma was the most common diagnosis in emergency departments (37.9%).

Data Sources: OHIP, DAD, NACRS

**Table 18: Ambulatory visits to all physicians for musculoskeletal conditions, Ontario, 2006/07**

	Persons visiting per 1,000 population							Ratio: Women /Men	# of visits (‘000)	Mean # visits per person
	Age Groups					Sex				
	All	0-14	15-44	45-64	65+	Women	Men			
<b>Arthritis and related</b>	<b>108.3</b>	<b>22.4</b>	<b>68.2</b>	<b>167.9</b>	<b>241.1</b>	<b>123.0</b>	<b>90.7</b>	<b>1.4</b>	<b>2,965</b>	<b>2.2</b>
Rheumatoid arthritis	6.5	0.8	2.7	10.8	18.4	9.0	3.9	2.3	225	2.7
Osteoarthritis	43.3	1.1	11.7	68.8	155.6	52.7	32.7	1.6	1,076	2.0
Joint derangement	10.9	2.1	9.7	17.0	15.1	10.7	10.9	1.0	596	4.3
Other arthritis	62.8	18.9	49.7	98.3	96.3	69.3	54.7	1.3	1,144	1.4
<b>Trauma and related</b>	<b>89.2</b>	<b>53.4</b>	<b>85.9</b>	<b>111.1</b>	<b>105.4</b>	<b>90.9</b>	<b>85.1</b>	<b>1.1</b>	<b>2,076</b>	<b>1.8</b>
Fractures/dislocations	17.3	20.8	13.9	15.5	27.4	16.5	17.7	0.9	472	2.2
Strains/sprains	76.2	36.0	75.4	99.6	87.0	79.2	71.1	1.1	1,604	1.7
<b>Bone and joint</b>	<b>132.2</b>	<b>49.7</b>	<b>108.8</b>	<b>183.4</b>	<b>221.6</b>	<b>150.2</b>	<b>110.7</b>	<b>1.4</b>	<b>3,473</b>	<b>2.1</b>
Spine	47.3	5.9	42.6	70.8	72.8	50.3	43.1	1.2	1,162	1.9
Bone	31.8	17.9	16.9	42.2	79.9	42.7	20.0	2.1	777	1.9
Unspecified bone & joint	71.3	28.4	62.1	98.8	106.0	79.0	61.7	1.3	1,535	1.7
<b>Musculoskeletal</b>	<b>261.3</b>	<b>113.9</b>	<b>216.6</b>	<b>352.9</b>	<b>430.1</b>	<b>285.4</b>	<b>230.2</b>	<b>1.2</b>	<b>8,515</b>	<b>2.6</b>

- ✦ Among specific arthritis and related conditions, the person-visit rate for Ontario residents was highest for osteoarthritis (43.3 per 1,000 population). Among trauma and related conditions, the most common reason for making at least one visit to a physician was strains and sprains (76.2 per 1,000 population). Generally, person-visit rates increased with age for all conditions groups.
- ✦ Rates were higher in women than men for arthritis and related conditions (1.4 times as many women making visits as men) and bone and joint conditions (1.4 times as many women making visits as men). Person-visit rates were slightly higher for women than men for trauma and related conditions (1.1 times as many women making visits as men).

Data Sources: OHIP, RPDB



**Table 19: Persons with ambulatory visits for musculoskeletal conditions by type of physician consulted, Ontario, 2006/07**

	All physicians (Number)	Primary Care (%)	All specialists (%)	Medical Specialists			Surgical Specialists	
				All (%)	Rheumatologists (%)	Internists (%)	All (%)	Orthopaedics (%)
<b>Arthritis and related</b>	<b>1,370,473</b>	<b>78.1</b>	<b>35.1</b>	<b>17.1</b>	<b>9.93</b>	<b>1.7</b>	<b>20.5</b>	<b>16.2</b>
Rheumatoid arthritis	82,504	58.5	57.5	53.8	47.14	4.3	6.6	3.8
Osteoarthritis	547,486	80.1	30.1	11.3	7.22	1.5	20.9	20.0
Joint derangement	138,544	50.4	55.6	3.6	1.09	0.3	52.1	45.8
Other arthritis	795,374	76.9	29.6	17.2	8.24	1.6	13.5	7.5
<b>Trauma and related</b>	<b>1,129,039</b>	<b>78.6</b>	<b>28.9</b>	<b>4.9</b>	<b>0.27</b>	<b>0.7</b>	<b>24.6</b>	<b>20.7</b>
Fractures/dislocations	219,095	37.4	72.2	2.8	0.07	0.5	70.2	58.3
Strains/sprains	964,521	85.3	20.9	5.1	0.31	0.7	15.6	11.7
<b>Bone and joint</b>	<b>1,673,443</b>	<b>89.9</b>	<b>19.7</b>	<b>13.1</b>	<b>2.34</b>	<b>3.0</b>	<b>8.0</b>	<b>4.7</b>
Spine	598,972	89.9	15.9	9.0	1.32	1.0	7.7	5.5
Bone	402,027	74.2	31.1	22.6	3.10	9.0	11.2	3.9
Unspecified bone & joint	902,528	88.9	13.9	9.1	2.18	1.0	5.0	3.7
<b>Musculoskeletal</b>	<b>3,307,521</b>	<b>86.7</b>	<b>30.6</b>	<b>14.2</b>	<b>5.1</b>	<b>2.4</b>	<b>19.4</b>	<b>15.0</b>

Row proportions do not add to 100% because an individual may visit more than one type of physician in a year

- ✦ 78.1% of Ontario residents with visits for arthritis and related conditions saw a primary care physician at least once; the proportion was similar for trauma and related conditions (78.6%). A higher proportion of residents visited for bone and joint conditions (89.9%).
- ✦ A higher proportion of persons with a visit for arthritis and related conditions saw a specialist (35.1%) compared to the other conditions groups. Persons with bone and joint conditions were least likely to consult a specialist (19.7%). A similar proportion of persons with arthritis and related conditions saw a medical specialist (17.1%) compared to a surgical specialist (20.5%). As might be expected, a greater proportion of persons seeing physicians with trauma and related conditions saw more surgical specialists than medical specialists (24.6% and 4.9% respectively).

Data Sources: OHIP, RPDB

**Table 20: Rates per 100,000 population of persons visiting emergency departments, inpatient hospitalizations and day surgeries, Ontario, 2006/07**

✦ In Ontario, the highest person-visit rates for specific conditions in the emergency department were for treatment of spine conditions, strains/sprains and fractures/dislocations.

✦ Inpatient hospitalization rates were highest for osteoarthritis and day surgery rates were highest for joint derangement.

	Emergency Department	Inpatient	Day Surgery
<b>Arthritis and related</b>	<b>972.1</b>	<b>317.9</b>	<b>361.6</b>
Rheumatoid arthritis	7.0	6.6	3.0
Osteoarthritis	72.0	231.5	56.7
Joint derangement	24.9	14.7	179.8
Other arthritis	881.2	69.0	124.1
<b>Trauma and related</b>	<b>1,213.3</b>	<b>75.4</b>	<b>30.3</b>
Fractures/dislocations	514.8	71.2	21.0
Strains/sprains	705.7	4.3	9.0
<b>Bone and joint</b>	<b>1,191.3</b>	<b>101.7</b>	<b>135.7</b>
Spine	772.4	49.5	43.0
Bone	59.9	36.4	53.5
Unspecified bone & joint	386.0	17.0	40.3
<b>Musculoskeletal</b>	<b>3,204.3</b>	<b>491.6</b>	<b>520.7</b>

Data Sources: DAD, NACRS

**Table 21: Rate per 100,000 population of persons visiting emergency departments for musculoskeletal conditions, Ontario, 2006/07**

	Persons visiting per 100,000 population							Ratio: Women/ Men
	Age Groups					Sex		
	All ages	0-14	15-44	45-64	65+	Women	Men	
Arthritis and related	972.1	305.5	811.3	1,244.4	1,878.9	978.4	965.6	1.0
Trauma and related	1,213.3	1,580.4	1,280.4	907.9	1,095.5	1,188.8	1,238.4	1.0
Bone and joint	1,191.3	321.5	1,252.5	1,417.0	1,725.0	1,247.3	1,133.8	1.1
<b>Musculoskeletal</b>	<b>3,204.3</b>	<b>2,156.6</b>	<b>3,176.1</b>	<b>3,360.5</b>	<b>4,418.6</b>	<b>3,236.5</b>	<b>3,171.1</b>	<b>1.0</b>

✦ In emergency departments, the highest person-visit rates among 0-14 year olds are for trauma and related conditions (1,580.4 per 100,000 population) whereas the highest rates among the elderly are for arthritis and related conditions (65+; 1,878.9 per 100,000 population).

Data Source: NACRS

**Table 22: Rate per 100,000 population of persons with inpatient hospitalizations for musculoskeletal conditions, Ontario, 2006/07**

	Persons with inpatient hospitalizations per 100,000 population							Ratio: Women/ Men
	Age Groups					Sex		
	All ages	0-14	15-44	45-64	65+	Women	Men	
Arthritis and related	317.9	27.5	62.1	421.4	1,365.6	357.7	276.9	1.3
Trauma and related	75.4	76.1	43.4	64.4	203.8	79.0	71.7	1.1
Bone and joint	101.7	25.6	67.7	129.3	264.2	107.6	95.5	1.2
<b>Musculoskeletal</b>	<b>491.6</b>	<b>128.0</b>	<b>171.4</b>	<b>616.2</b>	<b>1,813.6</b>	<b>538.6</b>	<b>443.4</b>	<b>1.2</b>

★ Arthritis and related conditions have the highest rate among the elderly (1,365.6 per 100,000 people).

Data Source: DAD

**Table 23: Rate per 100,000 population of persons with day surgeries for musculoskeletal conditions, Ontario, 2006/07**

	Persons with day surgeries per 100,000 population							Ratio: Women/ Men
	Age Groups					Sex		
	All ages	0-14	15-44	45-64	65+	Women	Men	
Arthritis and related	361.6	27.6	288.1	679.4	430.8	334.7	389.2	0.9
Trauma and related	30.3	35.0	27.7	33.0	27.3	27.6	33.1	0.9
Bone and joint	135.7	12.8	91.7	225.0	273.4	148.7	122.3	1.2
<b>Musculoskeletal</b>	<b>520.7</b>	<b>70.7</b>	<b>403.2</b>	<b>926.8</b>	<b>720.2</b>	<b>502.5</b>	<b>539.5</b>	<b>1.0</b>

✦ Arthritis and related conditions have the highest rates for people aged 15 years and older.

Data Source: NACRS