# The NEW look in CHA reports

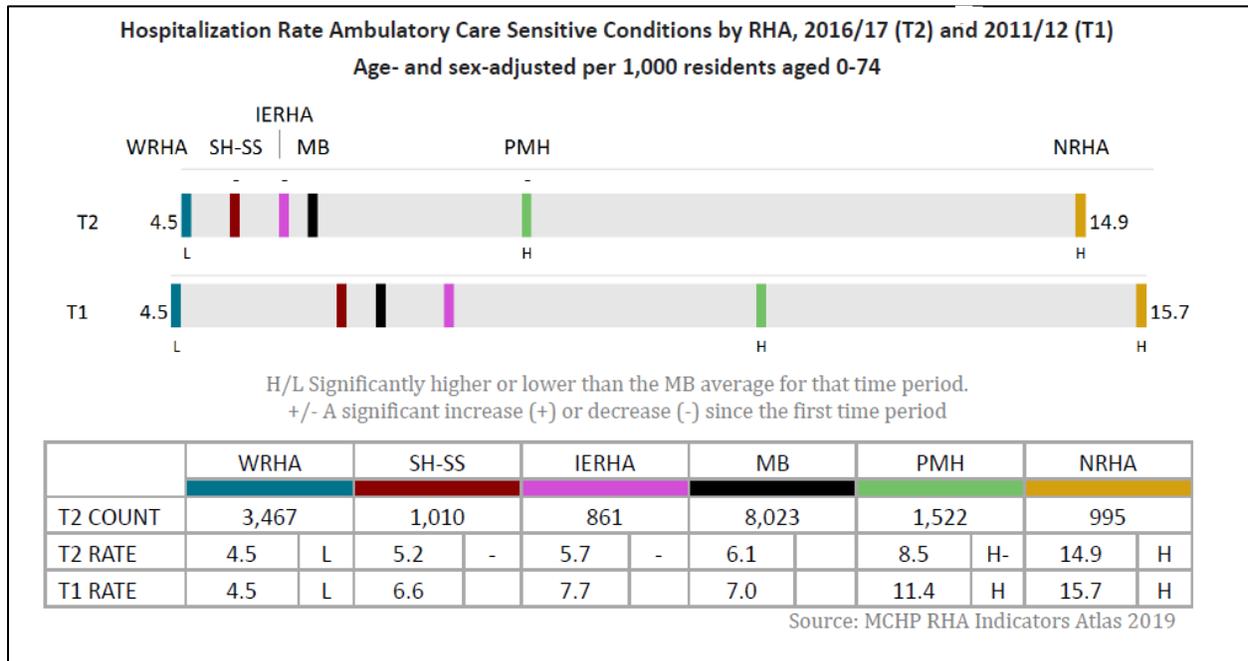A guide to interpreting presentation of data

An excerpt of pages from the *Interlake-Eastern Regional Health Authority Community Health Assessment 2019* report (pages xv to xx) to serve as a companion when interpreting visualization of data presented in the report.

December 2019

## Visualization of Data

The 2019 CHA introduces a new method of visualizing data to describe regional differences and changes over time. It captures all the components of the previously used Manitoba Centre for Health Policy multiple year bar chart but in a more condensed format. The regions are ordered from lowest to highest (based on T2 for tables).

**Example:**



Hospitalization Rate Ambulatory Care Sensitive Conditions by RHA, 2016/17 (T2) and 2011/12 (T1)
Age- and sex-adjusted per 1,000 residents aged 0-74

H/L Significantly higher or lower than the MB average for that time period.
+/- A significant increase (+) or decrease (-) since the first time period

|  | WRHA | | SH-SS | | IERHA | | MB | | PMH | | NRHA | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T2 COUNT | 3,467 | | 1,010 | | 861 | | 8,023 | | 1,522 | | 995 | |
| T2 RATE | 4.5 | L | 5.2 | - | 5.7 | - | 6.1 | | 8.5 | H- | 14.9 | H |
| T1 RATE | 4.5 | L | 6.6 | | 7.7 | | 7.0 | | 11.4 | H | 15.7 | H |

Source: MCHP RHA Indicators Atlas 2019

## Graphing the two time periods:

• The line bars are stacked one on top of the other with the most recent time period on top and the earlier time period below.

• The earlier or first time period is labeled "T1" and the second or more recent time period is labeled "T2". These labels are positioned at the extreme left end of the line bars.

## Understanding the sliding scale:

**Identifying regional data**
Bars on the sliding scale correspond to the regional values in the MCHP bar chart. To easily identify regional position, each RHA and Manitoba have been assigned specific colours.

**The range of values**

- The T2 bar reflects only the range in values from the lowest regional value (WRHA 4.5) to the highest (14.9 NRHA). The horizontal bar does not show the entire scale from 0.

- The T1 bar reflects the data in the earlier time period (or in some cases, the only time period available). In the example above, the lowest value is the same for both time periods (WRHA 4.5) but the highest value extends the scale to the right (NRHA 15.7). The scale has been extended to reflect the full range of values for both time periods.

- The bookends (lowest and highest values) easily identify whether values have increased, decreased, or remained similar across the province. This is a quick way to see whether the regional disparity has widened or narrowed.

**Statistical significance (statistical significance of $p<.05$)**
• Significant differences from the Manitoba average are shown below the RHA marker as either H (higher) or L (lower). This replaces MCHP's symbols "1" or "2" for indicating statistical differences from the Manitoba average by time period.

• Significant changes over time are shown above the RHA marker as + (increasing) or - (decreasing). This replaces MCHP's symbols "t" for indicating if the change over time was statistically significant for that area.

**Data table below sliding scales**
• A data table follows each set of line bars showing the actual values for every health region.

• T2 COUNT reflects the crude count for only the recent time period (e.g., residents, hospitalizations, visits, etc.)

• T2 RATE presents the regional data reflected in T2 sliding scale

• T1 RATE presents the regional data reflected in T1 sliding scale

• Statistically significant notations as described above

• Values are ordered from left to right, lowest to highest ambulatory care sensitive conditions (ACS) according to the T2 rate

## Interpreting the Data

Significant increases or decreases (statistical significance of $p<.05$) in a health region's value over time (from T1 to T2) are notated by either a + (increase) or – (decrease) above the RHA marker on the T2 bar and repeated in the accompanying table.
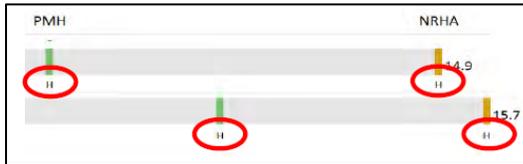
**Example:**
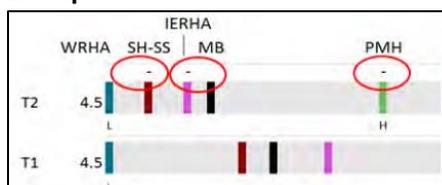


Southern Health Santé Sud, Interlake-Eastern RHA and Prairie Mountain Health have all shown a significant decrease in hospitalizations for Ambulatory Care Sensitive (ACS) conditions between T1 and T2.

Values that are significantly different from the Manitoba average for that time period are notated by either an H (higher) or L (lower) underneath the RHA marker on both the T1 and T2 bars and repeated in the accompanying table.

**Example:**



Prairie Mountain Health and Northern RHA have significantly higher rates of hospitalization for ACS conditions than the province as a whole in both time periods.
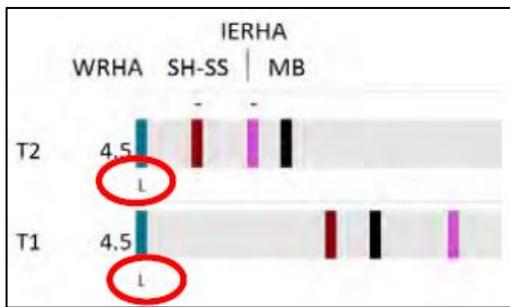
**Example:**



Winnipeg RHA has significantly lower rates of hospitalization for ACS conditions than the province as a whole in both time periods.

**Example:**



Prairie Mountain Health had an ACSC rate of 11.4/1,000 in the first time period (2011/12) which was significantly higher than the provincial average of 7.0/1,000. This value has decreased significantly to 8.5/1,000 in the second time period (2016/17) but remains significantly higher than the T2 provincial average of 6.1/1,000.

Within each group, the population is divided into five groups of approximately equal population according to the average household income (as determined by the Census small dissemination area) called income quintiles. Manitobans are split into urban and rural with urban being just the cities of Winnipeg and Brandon and rural being everyone else. In the current report, any income information is reported provincially but for rural quintiles only, which includes all of Interlake-Eastern RHA, including Selkirk.

# Zone and District Tables

Whenever available and appropriate, zone and district level data are presented in tables.

• When two time periods are available, the counts and rates or percentages of the most recent time period (labeled T2) are presented first, followed by the rates or percentages of the earlier time period (labeled T1).

• The zones are ordered by premature mortality rate from best to worse from left to right in the first row, followed by the second row (e.g., for Interlake-Eastern Regional Health Authority these are ordered South Zone, East Zone, West Zone, Selkirk Zone, North Zone, Northern Remote Zone).

• The district order varies between tables as they are ordered from best to worse, when appropriate.

**Example:**

Table 2.23. Teen Pregnancy Rate—IERHA Zone & District Findings, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

| | T2 Count | T2 Rate | | T1 Rate | | | | T2 Count | T2 Rate | | T1 Rate | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Manitoba** | 6,679 | 30.0 | - | 44.5 | | | **IERHA** | 658 | 30.8 | - | 46.1 | |
| **South Zone** | 140 | 13.8 | L | 15.6 | L | | **North Zone** | 295 | 77.6 | H- | 115.2 | H |
| Springfield | 24 | 10.2 | L | 9.6 | L | | Fisher/Peguis | 97 | 75.1 | H- | 107.5 | H |
| Stonewall/Teulon | 43 | 13.3 | L | 17.7 | L | | Eriksdale/Ashern | 93 | 79.6 | H- | 108.5 | H |
| Wpg Beach/St. Andrews | 36 | 13.5 | L | 17.7 | L | | Powerview/Pine Falls | 105 | 84.0 | H- | 133.5 | H |
| St. Clements | 37 | 25.6 | | 29.6 | | | | | | | | |
| **East Zone** | 58 | 20.0 | L- | 33.5 | | | **Northern Remote** | 88 | 111.1 | H- | 168.1 | H |
| Beausejour | 23 | 17.2 | L | 21.0 | L | | Northern Remote | 88 | 111.1 | H- | 168.1 | H |
| Pinawa/Lac du Bonnet | 20 | 22.8 | - | 47.6 | | | | | | | | |
| Whiteshell | 15 | 25.9 | | 42.0 | | | | | | | | |
| **West Zone** | 47 | 21.6 | | 31.0 | L | | | | | | | | |
| Arborg/Riverton | 13 | 14.2 | L | 26.6 | | | | | | | | |
| St. Laurent | 14 | 23.8 | | 38.1 | | | | | | | | |
| Gimli | 20 | 34.3 | | 33.8 | | | | | | | | |
| **Selkirk Zone** | 30 | 19.0 | - | 33.2 | | | | | | | | |
| Selkirk | 30 | 19.0 | - | 33.2 | | | | | | | | |

# Disparity Measures

There are two disparity measures shown in the report: income disparity and geographic disparity.

**Income disparity** is provided at a provincial level and is represented by the following visual for Inadequate Prenatal Care.
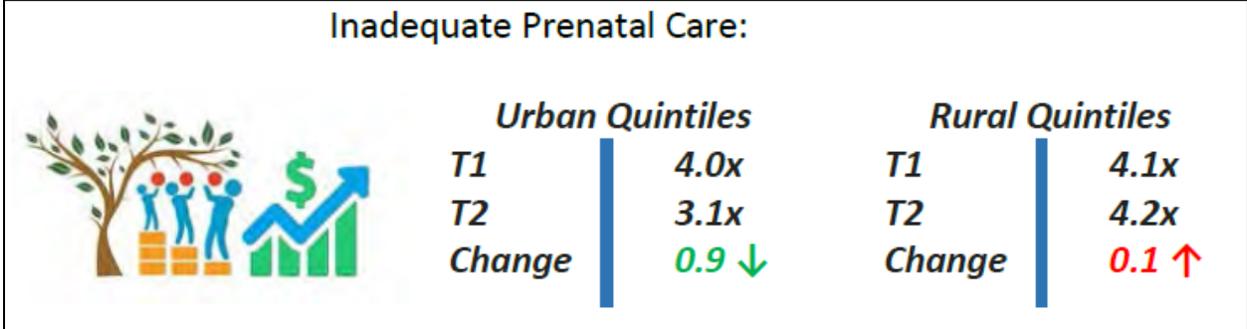


Manitobans are split into urban and rural with urban being just the city of Brandon and rural being all other health regions.

Within each group, the population is divided into five groups of approximately equal population, according to the average household income (as determined by the Census small dissemination area).

• The disparity measure is reported only where there is a statistically significant linear trend between income and the indicator results, and the nature of the increases or decreases are stepwise.

• The disparity is the relative difference between those in the highest income quintile and those in the lowest income quintile.

Understanding the income disparity information:
• The example above indicates that in urban settings, in the second time period (T2), the lowest income residents are 3.1 times as likely to receive inadequate prenatal care as those in the highest income quintile. The gap between the income levels has shrunk markedly over time.

• In a rural setting, the lowest income residents are 4.2 times as likely to receive inadequate prenatal care as those in the highest income quintile. The gap between the income levels has increased slightly over time.

• The direction of change is indicated by the arrows and the colour indicates whether the gap is narrowing (green) or widening (red).

**Geographic disparity** is shown at a regional level and is represented in the district table by the following visual sample.
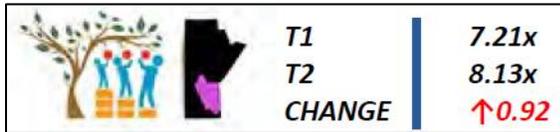


The disparity is measured between the district with the best value for the indicator and the district with the worst value. In this example, the district with the lower value is actually better, but in other indicators the reverse may be true.

Understanding the geographic disparity information:
• In the example above, the disparity measure in T1 indicates that the district with the highest value is 7.21 times more likely to receive 'inadequate care' than the district with the lowest value. Similarly, the T2 reflects that the district with the highest value is 8.13 times more likely to receive 'inadequate care' than the district with the lowest value.

• Note that the districts with the highest and lowest values may vary from T1 to T2.

• The red or green highlighted value indicates the change between the two time periods. The arrow pointing up or down and the red or green font colour indicate that the disparity or gap has widened or narrowed over time.