



# Information on Data Quality, Suppression and Other Interpretation Notes for the Your Health System Web Tool

## Methodology Notes

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## Ensuring data quality

Data quality is a shared responsibility of data providers and a key consideration for CIHI. A number of activities are undertaken to monitor and improve data quality, including

- Completing numerous data quality edits/reviews when data is submitted to CIHI;
- Providing data quality reports to provinces and/or facilities and recommending that they investigate any issues;
- Providing training/education/client support related to coding and changes/updates; and
- Providing support as required.

Reabstraction studies are also conducted regularly, where hospital charts are recoded and assessed against the original submissions. For a comprehensive list of data quality activities at CIHI, please visit the [Data Quality web page](#).

Data quality for results derived from the Canadian Community Health Survey (CCHS) is regularly reviewed and reported on. Please refer to the CCHS Microdata files user guides.<sup>1</sup>

## Suppression and statistical outliers

Not all indicators presented within [Your Health System](#) are applicable to each participating hospital or jurisdiction, as some hospitals or regions may not provide certain types of services. Also, indicator results do not appear when data has been suppressed or is not available, or when there are known data quality issues.

### What are suppressed results?

An indicator result may be suppressed for a number of reasons, including privacy concerns, the stability of the indicator result or facility reorganization.

*Suppression due to privacy:* To ensure privacy, a suppression rule was applied to all clinical indicator results. Typically, for non-risk-adjusted indicators, results based on numerators and/or denominators between 1 and 4 are suppressed.

*Suppression due to unstable results:* Unstable indicator results were suppressed. In general, these were indicator results with a denominator between 1 and 49 or an expected event less than 1 if the observed numerator count was greater than 0. Due to the nature of the risk-adjusted indicators, results that pass the above-mentioned stability criteria are reported regardless of the numerator size.

## Indicator-specific suppressions

**Emergency Department Wait Time for Physician Initial Assessment:** To ensure comparability, results for hospitals or regions for which more than 25% of the submitted data could not be used in the calculation of the indicator, due to quality and/or completeness of the data, were suppressed in the web tool. Therefore, indicator results for some hospitals (14% in Nova Scotia, 9% in Ontario, 54% in Saskatchewan, 33% in Alberta and 4% in British Columbia) and regions (1 in Nova Scotia, 2 in Saskatchewan and 1 in Alberta) have been suppressed.

Furthermore, results for jurisdictions for which less than 65% of emergency department activity was used in the calculation of the indicator (due to either lack of reporting or suppression, as described above) were not reported in the web tool. Therefore, results overall for the provinces of Nova Scotia and Manitoba, as well as for 2 regions in Nova Scotia, 1 region in Saskatchewan and 2 regions in British Columbia, are not reported.

**Total Time Spent in Emergency Department for Admitted Patients:** Indicator results for 4% of hospitals in Ontario, 17% of hospitals in Saskatchewan and 5% of hospitals in Alberta have been suppressed in the web tool, due to low volumes and/or completeness of the data.

Furthermore, results for jurisdictions for which less than 65% of emergency department activity was used in the calculation of the indicator (due to either lack of reporting or suppression, as described above) were not reported in the web tool. Therefore, results overall for the provinces of Nova Scotia and Manitoba, as well as for 2 regions in Nova Scotia, 1 region in Saskatchewan and 2 regions in British Columbia, are not reported.

**Navigation of Mental Health and Substance Use Services and Early Intervention for Mental Health and Substance Use Among Children and Youth:** Indicator results with a denominator between 1 and 49 or with a numerator between 1 and 4 were suppressed.

**Communication With Doctors, Communication With Nurses, Involvement in Decision-Making and Treatment Options, Information and Understanding When Leaving the Hospital and Overall Hospital Experience:** Measure results with a denominator between 1 and 29 and/or with a numerator between 1 and 4 were suppressed.

**Indicators produced by Statistics Canada:** Indicator results derived from the CCHS are suppressed according to the CCHS data release guidelines.<sup>1,2</sup> These guidelines state that estimates based on fewer than 10 respondents are suppressed. For estimates based on 10 or more respondents, estimates with a coefficient of variation (CV) greater than 33.3% are suppressed due to extreme sampling variability; estimates with a CV from 16.6% to 33.3% are released but flagged with “Interpret with caution”; and estimates with a CV from 0 to 16.5% are released without any specific notation.

For information on suppression related to the Statistics Canada indicators, please consult the [Statistics Canada website](#).

## Statistical outliers

A statistical outlier analysis was applied to the indicators calculated within the Efficiency theme. With this analysis, an outlier is defined as an indicator value that is greater than or less than a predetermined range of acceptable indicator values. The range of acceptable values was determined as follows:

$$1st\ quartile\ (25th\ percentile) - 1.5 \times IQR\ to\ 3rd\ quartile\ (75th\ percentile) + 1.5 \times IQR$$

where IQR stands for the interquartile range. Values outside of this range are suppressed as well as removed from provincial and national averages.

## Important indicator interpretation notes

**Potentially Inappropriate Medication Prescribed to Seniors:** Colour-coding has not been assigned for this indicator. Since coverage provided through public drug programs differs among provinces, comparisons of results should be done with caution. Additionally, there may be cases where it is appropriate for seniors to take drugs on the Beers list.

## References

1. Statistics Canada. [Canadian Community Health Survey \(CCHS\) Annual Component: User Guide 2012 and 2011–2012 Microdata Files](#). June 2013.
2. Statistics Canada. [Canadian Community Health Survey \(CCHS\) Annual Component: User Guide 2015 and 2013–2014 Microdata Files](#). June 2016.



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