Health-Adjusted Life Expectancy (HALE)

Provincial Health Services Authority
Province-wide solutions. Better health.

What is HALE (haley)?

Life expectancy and health-adjusted life expectancy are general measures of population health status used in *BC's Guiding Framework for Public Health.*[1]

HALE is more comprehensive than life expectancy because HALE assesses the quality of life as well as length of life.

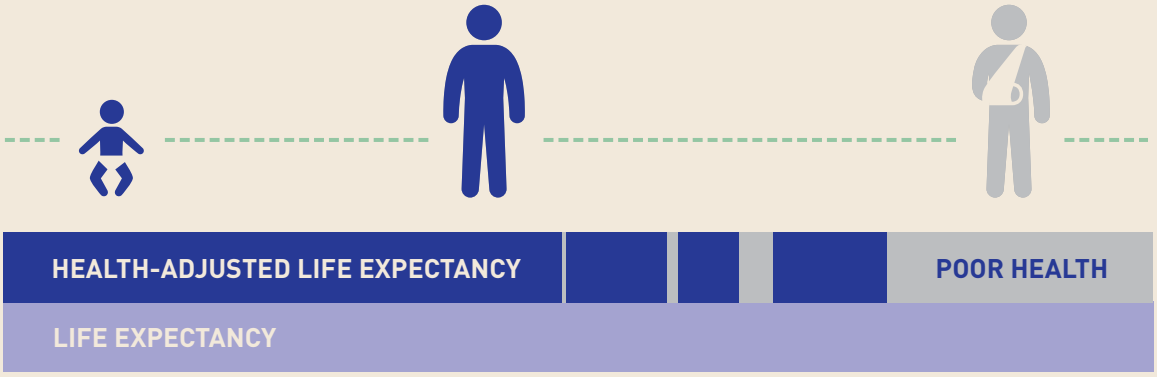
Concepts at a glance

LE Life expectancy

Life expectancy (LE) is the average number of years that a person is expected to live.

HALE Health-adjusted life expectancy

Health-adjusted life expectancy (HALE) is the average number of years that a person is expected to live in good health by taking into account years lived in less than full health due to disease and/or injury.[2]



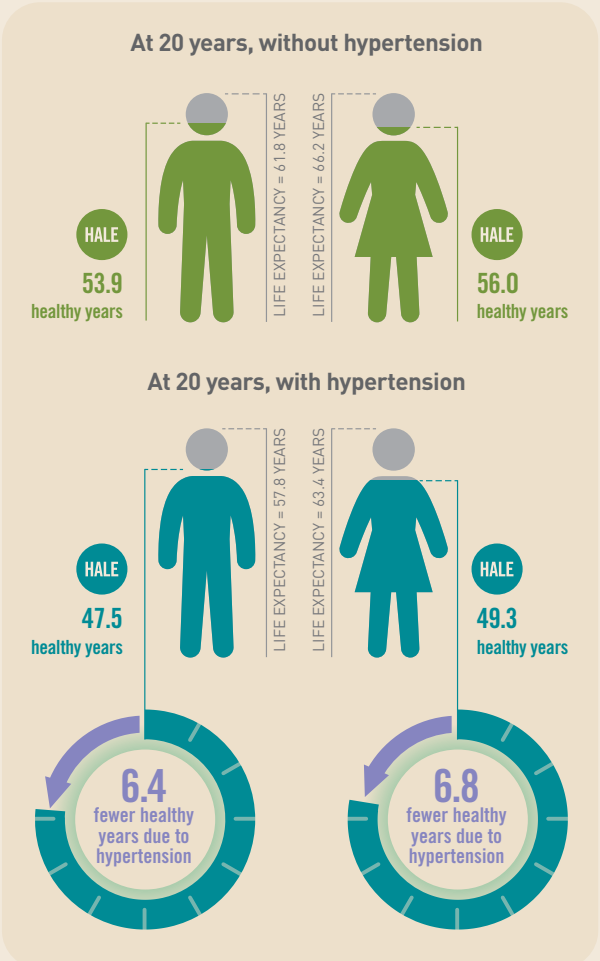
Do not apply LE or HALE to individuals.

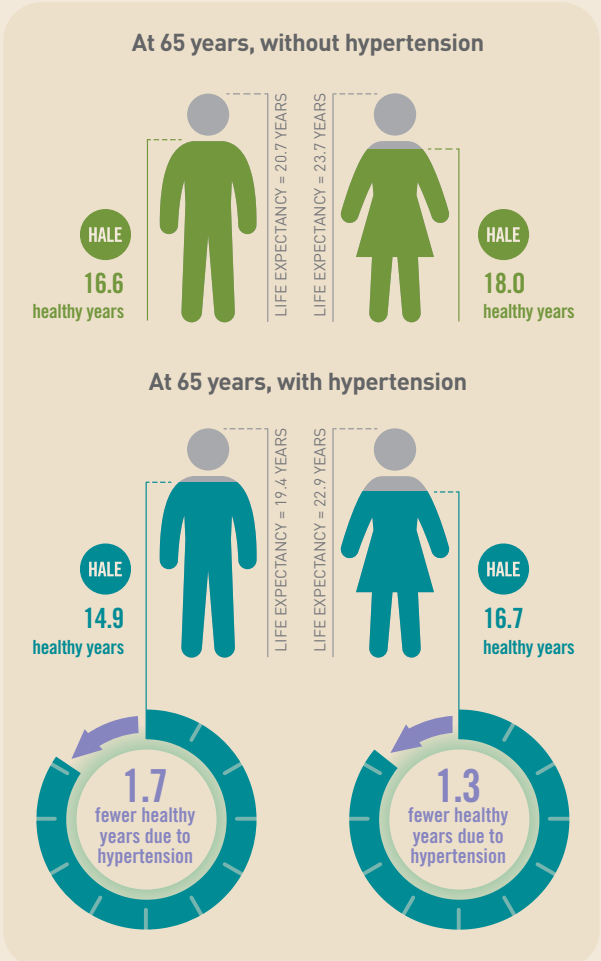
Life expectancy and HALE are based on specific population groups during a defined period of time. Individual life expectancies will vary substantially around this population average and the average will change over time. Life expectancy and HALE should be treated as descriptive measures of the population based on past occurrences. They are not predictive statistics or illustrative of individuals.

How can HALE inform chronic disease prevention & management?

Examining LE and HALE for various chronic diseases can show how these conditions affect length and quality of life. By comparing groups with and without a specific chronic disease and seeing the differences in LE and HALE, we can demonstrate the importance of disease prevention and management.

Case 1: Hypertension





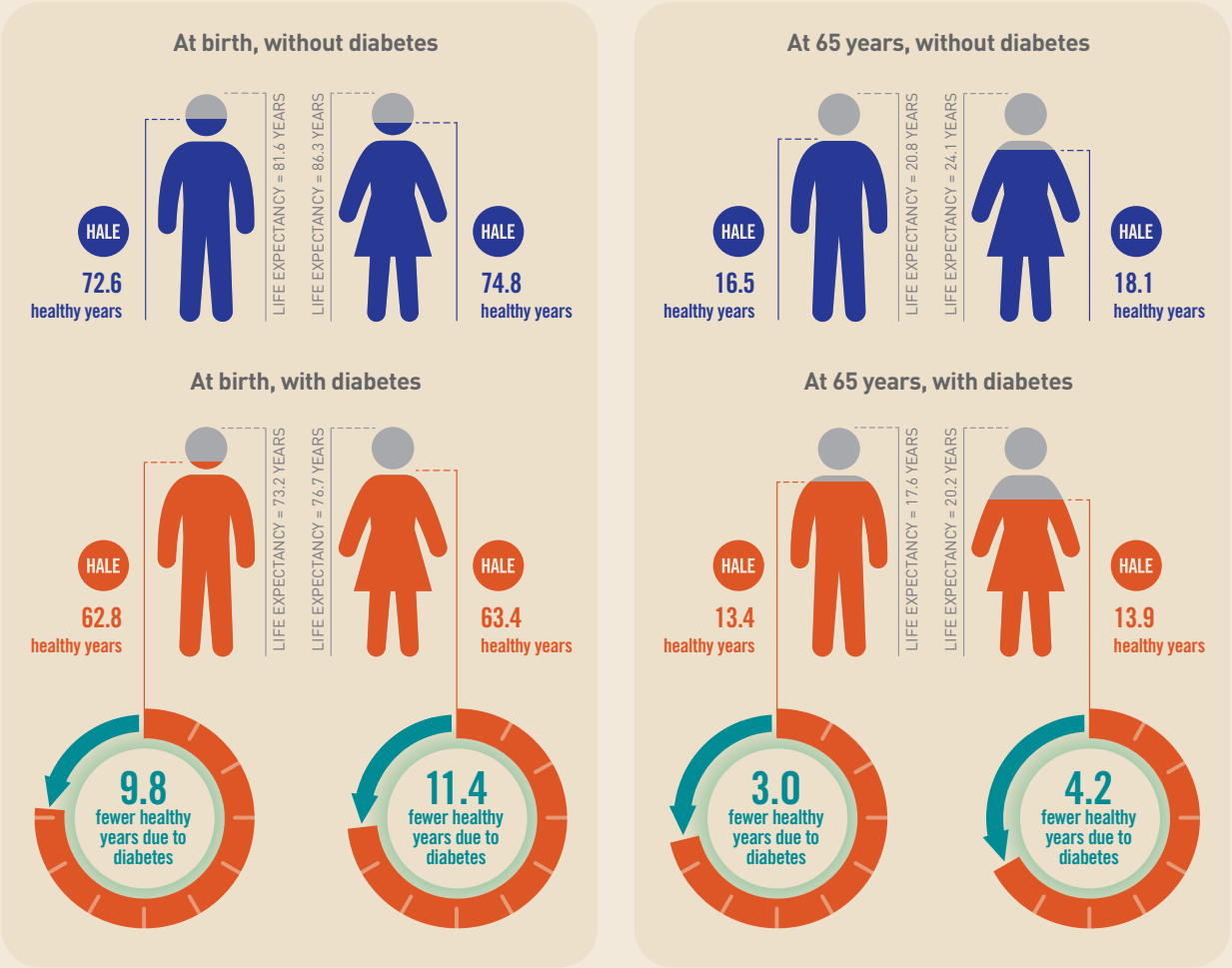
At age 20,

- **Males without hypertension** are expected to live for the next 61.8 years, including 53.9 years of good health.
- **Females without hypertension** are expected to live for the next 66.2 years, including 56.0 years of good health.
- **Males and females with hypertension** are expected to live 6.4 and 6.8 fewer healthy years, respectively, compared to those without hypertension.

At age 65,

- **Males without hypertension** are expected to live for the next 20.7 years, including 16.6 years of good health.
- **Females without hypertension** are expected to live for the next 23.7 years, including 18.0 years of good health.
- **Males and females with hypertension** are expected to live 1.7 and 1.3 fewer healthy years, respectively, compared to those without hypertension.

Case 2: Diabetes (type 1 & 2)*



At birth,

- **Males without diabetes** are expected to live for the next 81.6 years, including 72.6 years of good health.
- **Females without diabetes** are expected to live for the next 86.3 years, including 74.8 years of good health.
- **Males and females with diabetes** are expected to live 9.8 and 11.4 fewer healthy years, respectively, compared to those without diabetes.

At age 65,

- **Males without diabetes** are expected to live for the next 20.8 years, including 16.5 years of good health.
- **Females without diabetes** are expected to live for the next 24.1 years, including 18.1 years of good health.
- **Males and females with diabetes** are expected to live 3.0 and 4.2 fewer healthy years, respectively, compared to those without diabetes.

* This analysis was not able to differentiate between type 1 and type 2 diabetes. Due to the earlier onset of illness, the cumulative impact of type 1 diabetes on individual health is likely greater than for type 2 diabetes. However, the impact of diabetes on population health is strongly influenced by type 2 diabetes because it is much more prevalent.[3]

How can this information be used?

This information is intended for program planners as well as policy- and decision-makers in the health sector.

Along with life expectancy, HALE is a key surveillance indicator used in *BC's Guiding Framework for Public Health* and is an effective measure of population health status. Information on HALE overall and for specific population groups could inform policies and programs to improve opportunities for good health among all British Columbians.

Data sources

Calculations were provided by the Population and Public Health Program of the Provincial Health Services Authority using 2005-2010 data from the Chronic Disease Registry (BC Ministry of Health) and the Canadian Community Health Survey (Statistics Canada).

References

1. BC Ministry of Health. *Promote, protect, prevent: Our health begins here – BC's Guiding Framework for Public Health.* Victoria, BC: BC Ministry of Health, 2013.

2. World Health Organization. *"Health Status Statistics: Mortality"*. Accessed on August 20, 2015 from http://www.who.int/healthinfo/statistics/indhale/en/.

3. Public Health Agency of Canada Steering Committee on Health-Adjusted Life Expectancy. *Health-Adjusted Life Expectancy in Canada: 2012 Report by the Public Health Agency of Canada.* Ottawa, Ontario: Public Health Agency of Canada, 2012.

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