Health Literacy

Bridging gaps for better health outcomes

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Disclosures

- Advisory Boards
    - Lilly, Novartis

- Research Funding
    - CIHR, Heart and Stroke Foundation and more
    - GoodLife Fitness Chair
    - Apple

Toronto Rehab Institute
University Health Network

- 2400 patients / year
- 4-6 months
- On-site, virtual, hybrids
- >100 languages; range of SES

Objectives

- Define health literacy

- Relationship between health literacy and health outcomes

- Health literacy in the US

- 5 strategies for low health literacy

- Share resources

"Health and the City" – On the Streets of NYC

Health and the City, YouTube. https://www.youtube.com/watch?v=iFCbIxW4db0

- Many people unaware of medical terms like "hypertension", "angina"
- Many people have concerns about the patient– professional interaction

What is health literacy?

"The ability to **access, understand, evaluate, and communicate** information as a way to promote, maintain and improve health in a variety of settings across the life-course."

Rootman I and Gordon-El-Bihbety D. (2008). A Vision for a Health Literate Canada: Report of the Expert Panel on Health Literacy. CPHA.

Health Literacy and Health Outcomes

Limited literacy skills are one of the strongest predictors of poor health outcomes for patients

Individuals with limited health literacy

- Less likely to understand their disease and symptoms

- Less likely to know how to monitor/manage their condition

- Have greater difficulty using devices correctly

- Make more errors taking medication

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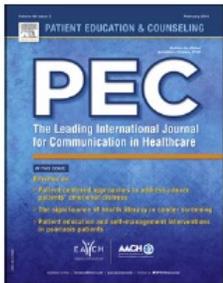
Health Literacy and Health Outcomes

Limited literacy skills are one of the strongest predictors of poor health outcomes for patients

Individuals with limited health literacy

- Miss appointments and tests

- Receive fewer preventive services

- Use more inpatient and emergency department care

- Cost the healthcare system more money

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Health Literacy and Coronary Artery Disease

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Patient Education and Counseling 2014

Low health literacy was consistently associated with:

| Increased hospital readmissions | Increased anxiety | Lower social support | Low health-related quality of life |

Health Literacy of US Adults

Only 12% of US adults have proficient health literacy (National Assessment of Adult Literacy, 2003) and even fewer (9%) have proficient numeracy.

Kutner M et al. The Health Literacy of America's Adults: Results from the 2003 National Assessment of Adult Literacy. 2006.
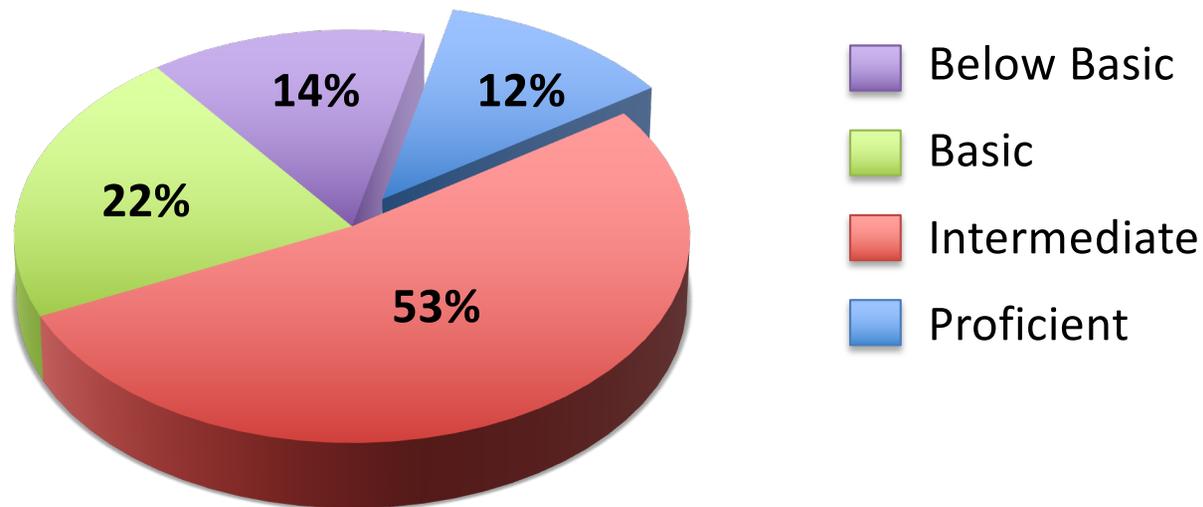
Taking Medications

Over 1/3 of US adults (77 million people) would have difficulty following directions on a drug label

American Medical Association (2012). Health Literacy Video Short Version. YouTube https://www.youtube.com/watch?v=ubPkdpGHWAQ
Kutner M et al. The Health Literacy of America's Adults: Results from the 2003 National Assessment of Adult Literacy. 2006

Prescription Labels: We Can Do Better

Doctor's Office/Pharmacy

"Take one capsule 4 times daily"

"1 cap QID"

Keenan J and Ohene-Frempong J. (2018). Writing for Health, Wellbeing, and Health Equity. IHA Conference Workshop.

Prescription Labels: We Can Do Better

Doctor's Office/Pharmacy

"Take one capsule 4 times daily"

"1 cap QID"

Back at home

I'll take one pill at 6am when I wake up.

Then what?

How long do I wait before I take the next one?

Keenan J and Ohene-Frempong J. (2018). Writing for Health, Wellbeing, and Health Equity. IHA Conference Workshop.

Financial Burden of Low Health Literacy

- **Additional cost of $143 to $7,798 USD annually per person with limited health literacy**

- **Up to $73 billion a year in excess health care costs**

Graham S., Brookey, J. Do Patients Understand? Perm J. 2008 Summer; 12(3): 67–69
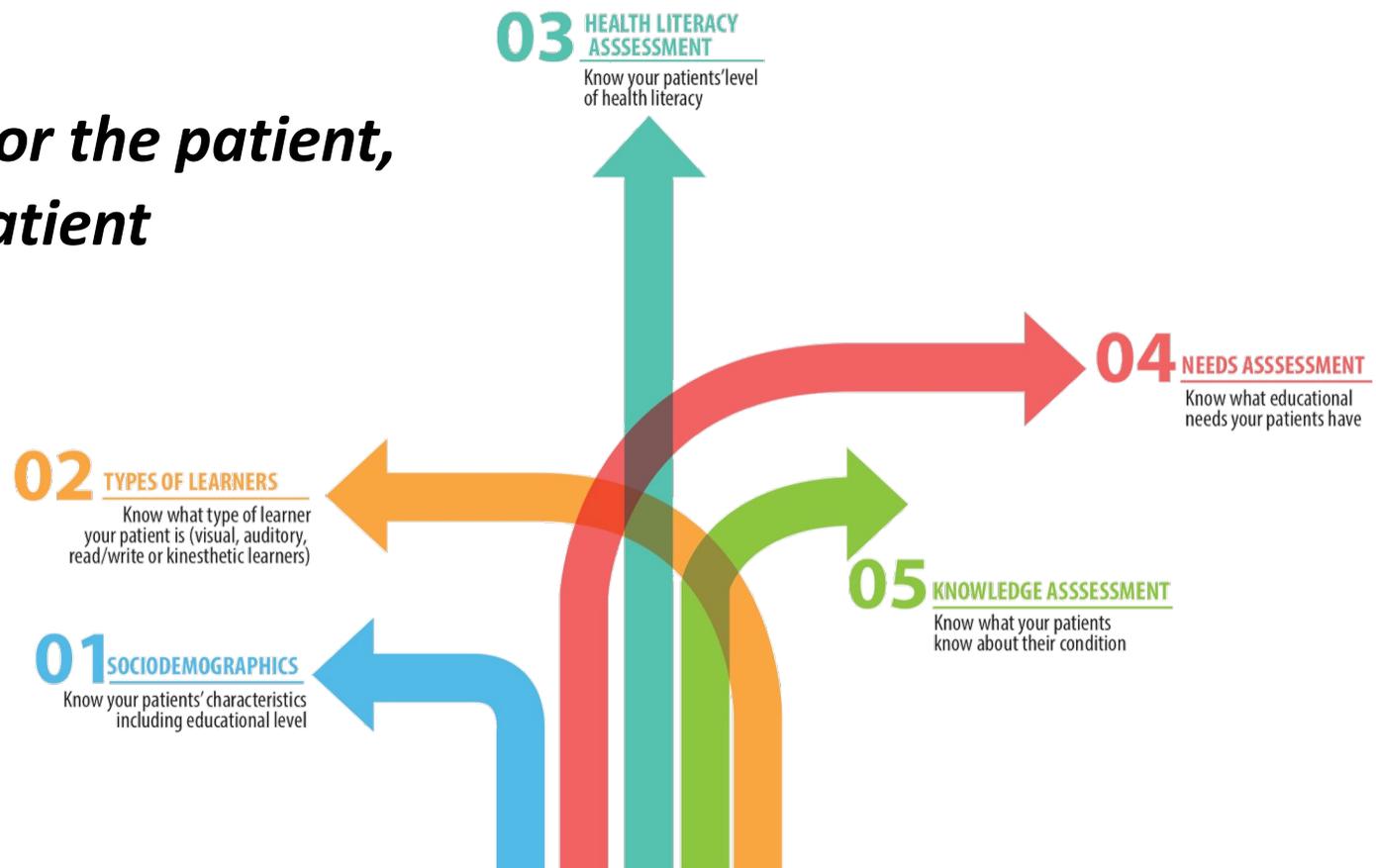
Bridging the Gap - there's a lot we can do

1. User-centered design

2. Use plain language and clear design

3. Assess health literacy

4. Check for understanding

5. Universal precautions

1. User-Centered Design

Designed for the patient, with the patient

03 HEALTH LITERACY ASSSESSMENT
Know your patients' level of health literacy

04 NEEDS ASSSESSMENT
Know what educational needs your patients have

02 TYPES OF LEARNERS
Know what type of learner your patient is (visual, auditory, read/write or kinesthetic learners)

05 KNOWLEDGE ASSSESSMENT
Know what your patients know about their condition

01 SOCIODEMOGRAPHICS
Know your patients' characteristics including educational level

Ghisi GLM

Engage Your Patients

- Assess information needs

- Focus Groups

- Surveys/questionnaires

- Interviews

- Patient Partners

- Virtual patient reviewers

Contents lists available at SciVerse ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou

Assessment

Development and psychometric validation of a scale to assess information needs in cardiac rehabilitation: The INCR Tool

Gabriela Lima de Melo Ghisi [a,b,*], Sherry L. Grace [b,c], Scott Thomas [a], Michael F. Evans [d], Paul Oh [b]
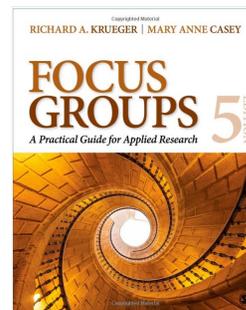
Focus Groups: A Practical Guide for Applied Research
Richard Krueger and Mary Casey (2014) 5ed.

2. Use Plain Language and Clear Design

"A written communication is in plain language if its wording, structure, and design are so clear that the intended readers can easily find what they need, understand it, and use it."

Readable materials should be written no higher than the 8th grade reading level, and it's even better to aim for the 5th grade reading level.

U.S. Department of Education

Doak et al., 1996; National Work Group on Literacy and Health, 1998 as seen in
Ames, Natalie. *What is readability and why should it matter to social workers?* The New Social Worker, Winter 2015

We All Seek Clarity

"Higher education customarily encompasses instructional strategies and techniques that promulgate and reward unnecessarily esoteric inclusion of professionally specific articulations and convoluted expressions of language devoid of clarity which are incomprehensible to those unassociated with said linguistic articulations."

Natalie Ames, Three Cheers for Plain Language

Natalie Ames. (2014). Three Cheers for Plain Language. Social Work Today. Retrieved Feb 2020

Plain Language Best Practices

Improve patient and caregiver materials by following plain design, writing, and numeracy principles

- ❑ Avoid words with 3 or more syllables, when possible

- ❑ Avoid, explain, or teach the meaning of words likely to cause confusion

- ❑ Write in the active voice

- ❑ Use the first or second person

- ❑ Limit sentences to less than 15 words

- ❑ Skip 'nice-to-know' information

Plain Language Best Practices

continued…

- ❑ Use **bolded** or enlarged headings and chunk information

- ❑ Use 12 point text or larger (e.g., Times New Roman)

- ❑ Limit use of italics and all CAPS

- ❑ Leave white space

- ❑ Use numerals instead of words (1 instead of one)

- ❑ On slides: remove clutter, focus on one main idea per slide, use dark text on a light background, choose useful graphics

Adapted from Ohene-Frempong J and Keenan J. (2018). IHN PLATO.1 Institute for Healthcare Advancement. Plain Language Assessment Tool for Organizations.

Activity – Practice Plain Language Atherosclerosis Example - complex

Atherosclerosis[1]

When plaque clogs your arteries, that's called atherosclerosis. Cholesterol, fatty substances, cellular waste products, calcium and fibrin make up these deposits. As plaque builds up, the wall of the blood vessel thickens. This causes the vessel to lose its elasticity and narrows the channel within the artery, which reduces blood flow. That, in turn, lessens the amount of oxygen and other nutrients reaching the body. Where plaque develops, and the type of artery affected, varies with each person. Plaque may partially or totally occlude blood flow through large- or medium-sized arteries in the heart, brain, pelvis, legs, arms or kidneys. This can precipitate various conditions, including: coronary heart disease, angina, carotid artery disease, PAD, and chronic kidney disease.

Plain Language Example: Atherosclerosis

What is atherosclerosis?

Blood flows through arteries in your body. Sometimes layers of fat, also known as plaque, build up inside your arteries. This is called atherosclerosis. Over time, the plaque can block some, or all, of your artery. This means you have less blood flowing through the artery because plaque is in the way.

What health problems can atherosclerosis cause?

Plaque can build up in the arteries of your heart, brain, pelvis, legs, arms, or kidneys. Less blood flow to these parts of your body can lead to:

- Coronary heart disease (plaque in the arteries of your heart)
- Angina (chest pain from less blood flow to your heart)
- Carotid artery disease (plaque in the arteries of your neck)
- Peripheral artery disease (plaque in the arteries of your arms or legs)

If plaque blocks blood flow to your heart or brain you can have a heart attack or stroke.

Speaking in Plain Language

Medical term/jargon	Try this instead
Hypertension	High blood pressure
Glucose	Sugar
Angina	Chest pain
Chronic	Lasting a long time
Sedentary	Sitting
Hypoglycemia	Low blood sugar

Plain Language & Clear Design Resources

- Plain Language Lexicon

- Readability formulas – determine the (grade) reading level
  - SMOG – simplified measure of gobbledygook
  - Flesch Reading Ease
  - FOG – Gunning FOG Index

- Clear design (plainlanguage.gov)
  - Principles of clear design include recommendations for fonts, graphics, headings, and overall layout

Cutts, Martin. 2011. Plain English Lexicon. A guide to whether your words will be understood.

Readability Example

"*Higher education customarily encompasses instructional strategies and techniques that promulgate and reward unnecessarily esoteric inclusion of professionally specific articulations and convoluted expressions of language devoid of clarity which are incomprehensible to those unassociated with said linguistic articulations.*"

We shouldn't use big words that are hard to learn.

http://gunning-fog-index.com

THE GUNNING FOG INDEX IS 37.50

- The number of major punctuation marks, eg. [.], was 1
- The number of words was 37
- The number of 3+ syllable words, highlighted in blue, was 21

THE GUNNING FOG INDEX IS 4.000

- The number of major punctuation marks, eg. [.], was 1
- The number of words was 10
- The number of 3+ syllable words, highlighted in blue, was 0

> *"Higher education customarily encompasses instructional strategies and techniques that promulgate and reward unnecessarily esoteric inclusion of professionally specific articulations and convoluted expressions of language devoid of clarity which are incomprehensible to those unassociated with said linguistic articulations."*

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Fog Index	Reading level by grade
17	College graduate
16	College senior
15	College junior
14	College sophomore
13	College freshman
12	High school senior
11	High school junior
10	High school sophomore
9	High school freshman
8	Eighth grade
7	Seventh grade
6	Sixth grade

3. Assess Health Literacy

- Rapid Estimate for Adult Literacy in Medicine (REALM)
- Test of Functional Health Literacy in Adults (TOFHLA)
- Newest Vital Sign (NVS)
- Medical Term Recognition Test (METER)
- Brief Screening Questions (BSQ)
- Calgary Charter tool
- Health Literacy Questionnaire (HLQ)

3. Assess Health Literacy: Activity - Newest Vital Sign

- If you eat the entire container of ice cream, how many calories will you eat?

- If you are allowed to eat 60 grams of carbohydrate as a snack, how much ice cream could you have?

- You usually have 42 grams of saturated fat each day, which includes 1 serving of ice cream. If you stop eating ice cream, how many grams of saturated fat would you be consuming each day?

Nutrition Facts

| Serving Size | ½ cup |
| Servings per container | 4 |

| Amount per serving | | |
| Calories 250 | Fat Cal | 120 |

	%DV
Total Fat 13g	20%
Sat Fat 9g	40%
Cholesterol 28mg	12%
Sodium 55mg	2%
Total Carbohydrate 30g	12%
Dietary Fiber 2g	
Sugars 23g	
Protein 4g	8%

*Percentage Daily Values (DV) are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients: Cream, Skim Milk, Liquid Sugar, Water, Egg Yolks, Brown Sugar, Milkfat, Peanut Oil, Sugar, Butter, Salt, Carrageenan, Vanilla Extract.

Weiss, B. D., Mays, M. Z., Martz, W., Castro, K. M., DeWalt, D. A. , Pignone, M. P., et al. (2005). Quick Assessment of Literacy in Primary Care: The Newest Vital Sign. *Annals of Family Medicine*, 3(6), 514-522.

3. Assess Health Literacy: Activity - Newest Vital Sign

- If you usually eat 2500 calories in a day, what percentage of your daily value of calories will you be eating if you et one serving?

- Pretend that you are allergic to the following substances: penicillin, peanuts, latex gloves, and bee stings. Is it safe for you to eat this ice cream?

Nutrition Facts	
Serving Size	½ cup
Servings per container	4

Amount per serving		
Calories 250	Fat Cal	120

	%DV
Total Fat 13g	20%
Sat Fat 9g	40%
Cholesterol 28mg	12%
Sodium 55mg	2%
Total Carbohydrate 30g	12%
Dietary Fiber 2g	
Sugars 23g	
Protein 4g	8%

*Percentage Daily Values (DV) are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.
Ingredients: Cream, Skim Milk, Liquid Sugar, Water, Egg Yolks, Brown Sugar, Milkfat, Peanut Oil, Sugar, Butter, Salt, Carrageenan, Vanilla Extract.

Weiss, B. D., Mays, M. Z., Martz, W., Castro, K. M., DeWalt, D. A. , Pignone, M. P., et al. (2005). Quick Assessment of Literacy in Primary Care: The Newest Vital Sign. *Annals of Family Medicine*, 3(6), 514-522.

3. Assess Health Literacy: BRIEF

	Always (1)	Often (2)	Sometimes (3)	Occasionally (4)	Never (5)
How often do you have someone help you read hospital materials?					
How often do you have problems learning about your medical condition because of difficulty understanding written information?					
How often do you have a problem understanding what is told to you about your medical condition?					
How confident are you filling out medical forms by yourself?					

Haun, J., Luther, S., Dodd, V., & Donaldson, P. (2012). Measurement variation across health literacy assessments: implications for assessment selection in research and practice. J Health Commu,17 Suppl 3:141-59.

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How often do you have a problem understanding what is told to you about your medical condition?					
How confident are you filling out medical forms by yourself?					

Scoring categories:
<12 = inadequate HL
13-16 = marginal HL
17-20 = adequate HL

Haun, J., Luther, S., Dodd, V., & Donaldson, P. (2012). Measurement variation across health literacy assessments: implications for assessment selection in research and practice. J Health Commu,17 Suppl 3:141-59.

4. Check for Understanding

Possible signs of low health literacy:

Patient may appear frustrated and angry about a treatment that has not worked

Incidence of high frequency of visits or not showing up at all for scheduled visits

Despite repeating the same instructions over several visits, the condition may still not be managed

When given forms to fill out, the patient may say, "I left my reading glasses at home."

The patient may bring someone along to the appointment and defer to them to answer questions

Noticeable language barriers

Observing non-verbal signs of lack of understanding. For example, the patient may just nod and agree, so it goes undetected

Adapted from Health Literacy in Canada: A Primer for Students. Hoffman-Goetz et al. 2014

The Danger of Assumptions

image from medscape.com

Ask Me 3™

Patient is encouraged to ask 3 basic questions

- What is my main problem?

- What do I need to do?

- Why is it important for me to do this?

Ask Me 3. Partnership for Clear Health Communication. Institute for Healthcare Improvement.
Health Literacy in Canada: A Primer for Students. Hoffman-Goetz et al. 2014

Teach-Back

A patient **forgets 40-80%** of the medical information they hear at their doctor's visit

Nearly half of what they do remember is **wrong**

Teach-Back Method

Explain concept/ instructions to patient

Tell the patient you want to check that you explained it clearly

Ask the patient to use their own words to tell you what they will do next or what they understood

Review details as needed

5. Universal Precautions

Always communicate in ways that anyone can understand

- Assume all patients and caregivers may have difficulty understanding health information

- Even people with stronger health literacy skills benefit from health literacy interventions

AHRQ Health Literacy Universal Precautions Toolkit, Second Edition. (2015)

The Danger of Assumptions
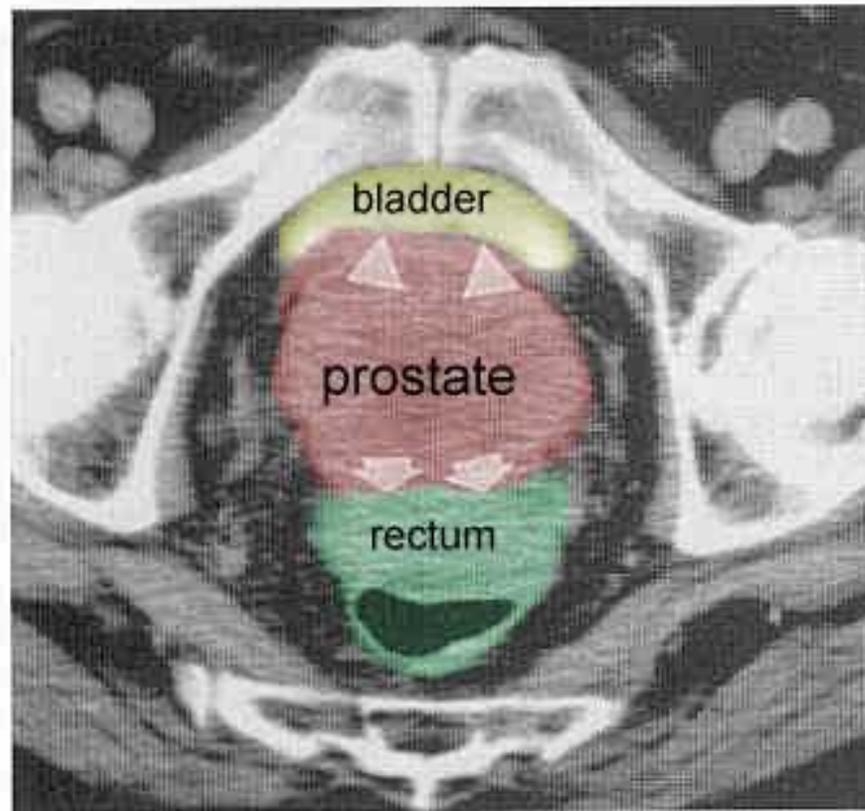
image from aboutcancer.com

A Few Health Literacy Resources

- Institute for Healthcare Advancement

- Boston – Health Literacy Tool Shed

- AHRQ Health Literacy Universal Precautions Toolkit

- AHRQ "Always Use Teach-back!" training toolkit

- PLAIN –Plain Language Association International

- Plain Language Lexicon

- Plainlanguage.gov

www.healtheuniversity.ca

5 Program Pillars

CARDIAC college

Find tools to help you manage heart disease, get active, eat healthy, and feel well.

Visit the toolbox

● ●

| Treat Heart Disease | Get Active | Eat Healthy | Feel Well | Take Control | THRiVE: 12-Week Challenge |

Welcome to Cardiac College™

The Cardiovascular Prevention and Rehabilitation Program at Toronto Rehab helps people live and thrive with heart disease. If you had a heart attack, heart surgery, valve surgery, an angioplasty, an arrhythmia, angina or other heart conditions, this program can help you:

- improve your health
- improve your fitness
- make lifestyle changes
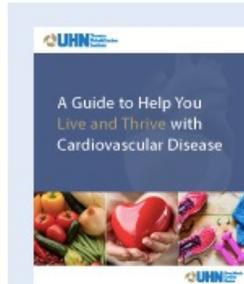
A Guide to Help You Live and Thrive with Cardiovascular Disease

View the guide

Donate today to

Toronto Rehab Foundation ⟳ UHN

THRiVE
Small changes for better health

Partners

Cardiac Guide

A Guide to Help You Live and Thrive with Cardiovascular Disease

Cardiovascular Prevention & Rehabilitation Program
April 2018

UHN Peter Munk Cardiac Centre

TREAT HEART DISEASE

How your heart works and common types of heart problems

TREAT HEART DISEASE

Common tests and treatments for heart disease

TREAT HEART DISEASE

Taking your heart medicines

TREAT HEART DISEASE

Managing your symptoms

GET ACTIVE

Staying active for a healthy heart

EAT HEALTHY

Eating well for a healthy heart

FEEL WELL

Managing stress for a healthy heart

FEEL WELL

Enjoying a healthy relationship and sexual intimacy

TAKE CONTROL

Setting goals for a healthy heart

Diversity - Need and Opportunity

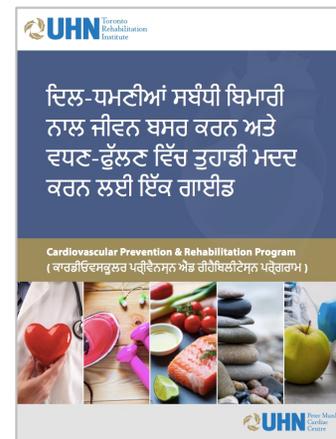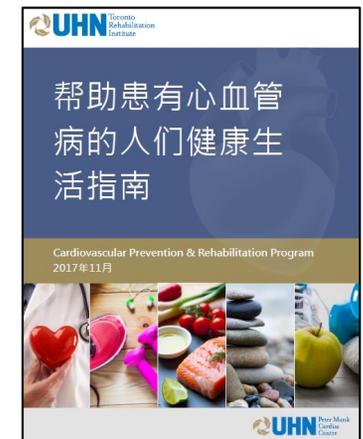# Multilingual Resources
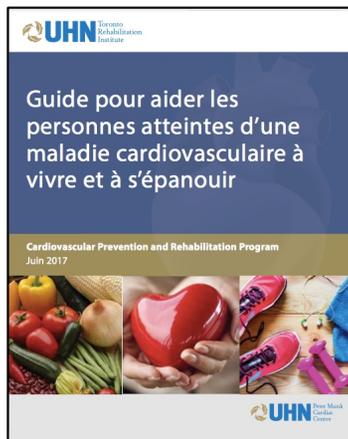
French · Spanish · Portuguese · Punjabi · Chinese

+ more

Collaborative development and evaluation projects

Clinical Care Grand Rounds

Thank You for Attending!

Discussion and Questions

Contact: paul.oh@uhn.ca