Health Literacy: The Missing Link in Public Health?
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For over 15 years …

- The multi-disciplinary field of health literacy has made much ado about the negative effects of low health literacy on health.

In many ways …

- The health of the nation continues to decline or improve at a slower rate than other nations.

In every way …

- The cost of health continues to rise.
A few indicators …

• 88% of American adults were below the proficient level of health literacy (2004)

• Among high-income countries, U.S. 15-year-olds rank: (2006)
  ○ Last in Reading
  ○ Fifth from last in Science
  ○ Third from last in Mathematics
A few indicators …

• Female mortality rose in nearly half of U.S. counties between 1992-2006.

• “The United States spends much more money on health care than any other country. Yet Americans die sooner and experience more illness than residents in many other countries.”

(National Research Council & Institute of Medicine, 2013)
Now is the time to help people and communities be healthier!

Health literacy is the tool that can help people, and help health systems help people, to live a life of health and wellness and lower costs – regardless of socioeconomic status or other social determinants of health.
Public health defined

The science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals. (Winslow, C.E., 1920)
Public health options

• Regulation
• Technology development
• Education
• Persuasion
The Public Health context
Can lose connections with people
The Public Health challenge ...
and to stay connected.
Public health: Tools of the trade

- Knowledge
- Behaviors
- Attitudes
- Beliefs
Public health: Tools of the trade

Knowledge

Beliefs

Attitudes

Behaviors
Literacies are Behaviors
To improve literacy is to change behavior

To transition from learning to read to reading to learn is a change in behavior
Where’s health literacy?

Behaviors

Literacies

? Health
All literacies in a health context?

Behaviors

Literacies

Why not?
- Highly literate doctors and nurses smoke
So, which literacies affect health in what ways?

- We’ve measured document, prose, and numeracy literacies in a health context … to varied effect and validity questions abound
- We have not tested any of the hypotheses/definitions of HL literacies
The question is …

• How can health literacy be improved, incentivized, structured, and applied in a manner that can be systematically tested in regard to improving individual, community, and public health?

• The answer should clearly distinguish health literacy from other variables of interest AND be equally applicable to both sides of the health literacy equation.
Enter – the Calgary Charter

- Health literacy allows the public and personnel working in all health-related contexts to …

- **find**, **understand**, **evaluate**, **communicate**, and **use** information …

- to make informed decisions, reduce health risks, increase prevention and wellness, better navigate the health system, improve patient safety and patient care, reduce inequities in health, and improve quality of life.

= a theory of health behavior change based on use of literacy behaviors
Calgary Charter on Health Literacy

Always build this logic model on a foundational awareness of:

- Fundamental literacy - if your language fails, you fail.
- Scientific literacy - if you remove the science, you fail.
- Cultural literacy - if you ignore culture, you fail.
- Civic literacy - if you don’t engage and empower people, you fail.
Calgary Charter on Health Literacy

Literacies

Used to ...

Find

Understand

Evaluate

Communicate

Used to ...

Use

Used to ...

Improve health

Plain language targets
Then what happens as a result?

Selected short (proximal) and long-term (distal) outcomes

Find

Understand

Evaluate

Communicate

Use

Navigation • Access • Equity

Knowledge

Relevance • Self-efficacy • Attitudes • Belief formation

Teach-back • Social support • Diffusion of innovations

Informed Behavior Change
Clearly distinguishes literacies from health literacy

- Find
- Understand
- Evaluate
- Communicate
- Use

Improve health
Public health example #1 - Vaccinations

• States in the U.S. mandate immunization, or obtaining exemption, before children enroll in public school.

• Overall rates of immunization remain at 90% and above.

• But in some locations, rates have fallen for a decade.

• Creating calls for education programs and/or stronger regulations.
Vaccinations and health literacy

**Selected Proximal & Distal Outcomes**

- Easy access to vaccinations
- Minimal educational efforts, assumption regulation is sufficient
- Lost relevance over time for some - beliefs trumped science
- Created space for uninformed communication and communication of poor science
- Un- or mis-informed behaviors
Public health example #2 – “This is Public Health” campaign

• Created by Association of Schools of Public Health (ASPH) to “let people know that public health affects them on a daily basis and that we are only as healthy as the world we live in.”

• Provides stickers to students to place on items in their community they think ‘are’ public health.
This is Public Health

Find

Understand

Evaluate

Communicate

Use

Selected Proximal & Distal Outcomes

Anyone seen a sticker?

No informational content w/out web; then minimal

No relevance provided

No communication platform w/out web - then minimal

Targets no behavior changes
Public health example #3 – H1N1 in the United Kingdom

• Antivirals are one of a few options for alleviating the human health burden from an influenza pandemic.
• The U.K. government distributed antivirals during the 2009 influenza H1N1 pandemic.
• Calls continue to emerge to “alter public health messages to improve compliance.”
**H1N1 pandemic**

**Find**
- Product was freely supplied

**Understand**
- Public feels vaccines may not be safe; lack of knowledge a cause
- High levels of unease about consequences of taking antiviral

**Communicate**
- Media coverage; social media use both high - no feedback

**Use**
- Half of the Tami Flu distributed was not used; vaccines rejected
Public health example #4 – Anthrax in the United States

• Sept. 18, 2001 and October 9, 2001 - total of seven anthrax containing letters were mailed to news organizations and two U.S. Senators.

• In the end, five people died; 22 infected. Some report up to 68 people harmed.

• FBI, investigation was “one of the largest and most complex in history” - No prosecution yet.

• Multiple examples of inaccurate and exceedingly complex information from government.
What is anthrax?

• CDC website during the crisis …

“Bacillus anthracis, the etiologic agent of anthrax, is a large, gram-positive, non-motile, spore-forming bacterial rod. The three virulence factors of B. anthracis are edema toxin, lethal toxin and a capsular antigen. Human anthrax has three major clinical forms: cutaneous, inhalation, and gastrointestinal. If left untreated, anthrax in all forms can lead to septicemia and death.”
Anthrax in the United States

Find

Widely available information

Understand

Low public understanding; complex governmental information sources

Assumed all were at risk; misunderstanding science and risk

Communicate

Few feedback venues; postal workers union complains of bias

Use

Antibiotic usage increased in every state in the nation
Public health example #5 – Canyon Ranch Institute Life Enhancement Program

Health Literacy: Golden rule

Integrative Health

Prevention of Chronic Disease

Involve people early and often

Include their whole lives

To achieve prevention
CRI LEP Components

• Program tailored to each community
• Pre, Post, + 1 year assessments
• 12 sessions - food demos, grocery store visit, exercise
• At least four One-On-One consultations:
  1. Integrative Health
  2. Behavioral Health
  3. Nutrition
  4. Exercise
  ○ Optional:
    • Medication & Supplements Review
    • Spirituality
A health literate health system

PRE (Before Program)
- Participant's contexts:
  - Environmental pressures
  - Social setting
  - Personal health status, behaviors, health literacy, and attitudes

PROCESS During Program
- 1 on 1 consultation with specialists
- Group sessions & activities
- Physician/PA/Nurse
- Nutrition expert
- Behavioral specialist
- Exercise physiologist
- Spirituality professional
- Physical activity
- Nutrition
- Behavior change
- Sense of purpose
- Integrative health & medicine
- Stress reduction
- Social support & follow-up

Participants set their desired goals by working with specialists

POST Outcomes of Program
- Improved health literacy
- Behavior change
- Improved individual health status
- Improved public health and health system performance

Reunions and social support help participants continue change process
CRI Life Enhancement Program

Find

Average attendance at over 60%; 73%+ completion

Understand

20%+ increase in health knowledge

Evaluate

9% - 20% increase in domain (e.g., nutrition/exercise) self-efficacy

Communicate

Share information with over 8 other people on average

Use

Statistically sig. healthy changes in blood indicators, depression, stress, civic engagement, etc.
To wrap up ...

- The Calgary Charter model provides us with:
  - A logic model supporting efforts beyond plain language efforts to improve health literacy.
  - A two-sided framework for intervention design.
  - Basis for evaluating health professionals and health systems.
  - Way to define, operationalize, and measure health literacy to improve individual, community, and public health.
To wrap up …

• Health literacy is often neglected in public health efforts – to everyone’s potential peril.

• Health literacy is the tool that can help people, and help health systems help people, to live a life of health and wellness and lower costs – regardless of socioeconomic status or other social determinants of health.
Let’s talk!

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