

# Practical interventions to improve health literacy in populations

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THE UNIVERSITY OF  
**SYDNEY**



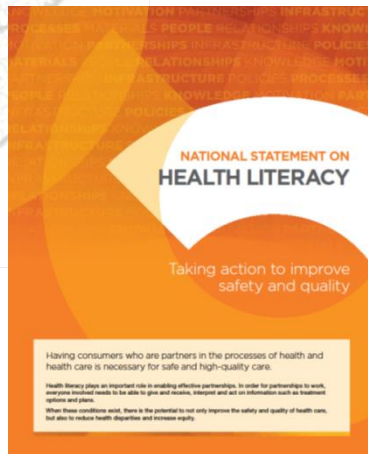
# Health literacy has become a priority for many countries across the world

## Documents for Promoting Health Literacy in China

“中国公民健康素养促进行动”  
资料汇编

Issued by the Ministry of Health  
the People's Republic of China  
中华人民共和国卫生部 编

April, 2009  
二〇〇九年四月



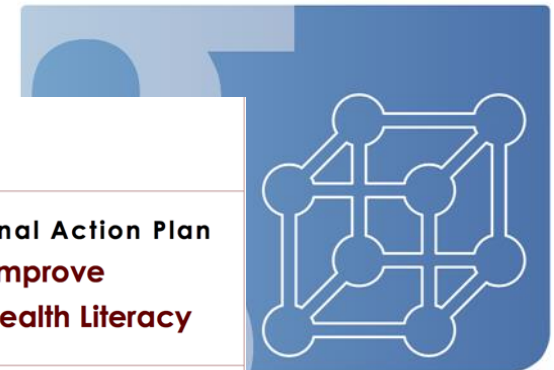
AUSTRALIAN COMMISSION  
on SAFETY and QUALITY in HEALTH CARE

## Making it Easy A Health Literacy Action Plan for Scotland



## Health Literacy erhöhen

Capacity Building bei VertreterInnen von PatientInnen  
und KonsumentInnen von Gesundheitsleistungen



## National Action Plan to Improve Health Literacy



U.S. Department of Health and Human Services  
Office of Disease Prevention and Health Promotion

# Health Literacy has become a popular research topic: Rise in publications on “health literacy” 2000-2017

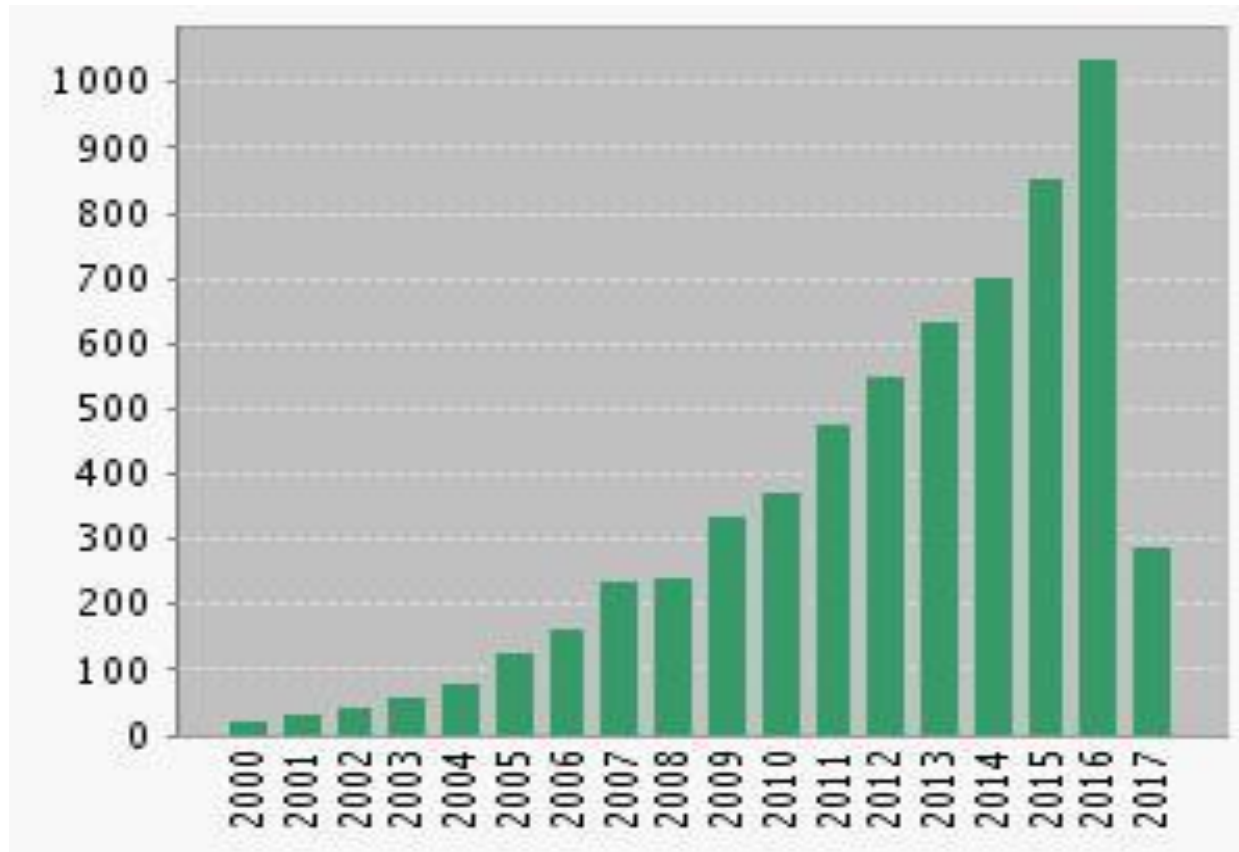


Chart from Thomson-Reuters *Web of Science* database. Accessed May 2017.

# Health literacy is not a new idea



## Goals & Targets For Australia's Health in the Year 2000 and Beyond

1993

### Health Literacy

#### Need for action

Health literacy is defined as the ability to gain access to, understand, and use information in ways which promote and maintain good health. Health literacy is itself dependent on more general levels of literacy<sup>300</sup> among the population. Lack of literacy can affect people's health directly by limiting their personal, social, and cultural development or indirectly, by limiting their access to health information, and thus to the development of effective knowledge and skills.<sup>301</sup>

Studies show that about one million Australian adults have difficulty carrying out everyday literacy tasks.<sup>302</sup> Among both children and adults, those most likely to experience literacy difficulties are the socioeconomically disadvantaged.<sup>303</sup>

By comparison with their highly educated counterparts, relatively poorly educated men are 23% more likely to have serious chronic illness and 90% more likely to perceive their health as fair/poor; relatively poorly educated women are 15% more likely to have serious chronic illness, and 10% more likely to perceive their health as fair/poor.<sup>304</sup>

Aboriginal people have disproportionately poorer English literacy than any other group in Australia - partly because English is not their first language, and partly because of poor access to, and participation in education. People from non-English speaking backgrounds suffer similar

disadvantage.<sup>305 306</sup> Among older immigrants in particular the social isolation associated with migration is often exacerbated by low literacy levels in English.

The Australian Language and Literacy Policy has stated, as its first goal: *All Australian residents should develop and maintain a level of spoken and written English which is appropriate for a range of contexts, with the support of education and training programs addressing their diverse learning needs.*<sup>307</sup> The Policy also includes goals for learning languages other than English and for maintaining and developing Aboriginal and Torres Strait Islander languages where they are still used.

From a base of general literacy, personal health literacy enables people to make informed health choices. While knowledge on its own cannot ensure that people are able or willing to make healthy choices, in most cases it is an important precondition.<sup>308</sup> It is also necessary for people to be able to use services appropriately and to manage effectively chronic conditions (for example people with diabetes needing to achieve metabolic control, or optimal use of medications).

The range of knowledge which people require in order to become and stay healthy is very broad. In many ways, the process of setting targets itself exposes one reason

<sup>300</sup> Literacy has been defined as the ability to read and use written information and to write appropriately, in a range of contexts. It is used to develop knowledge and understanding, to achieve personal growth and to function effectively in our society. Department of Employment, Education and Training. 1991. *Australia's Language: the Australian Language and Literacy Policy*. p 9.

<sup>301</sup> Hartley R. 1989. *The Social Costs of Inadequate Literacy: A Report for International Literacy Year*. Australian Institute of Family Studies. Department of Employment Education and Training. Australian Government Publishing Service, Canberra. p xi.

<sup>302</sup> Department of Employment, Education and Training. 1991. Ibid. p xiv. Australian Government Publishing Service, Canberra.

<sup>303</sup> Department of Employment, Education and Training. 1991. Ibid. p 42.

<sup>304</sup> National Health Strategy. 1992. *Enough To Make You Sick: How income and environment affect health*. Research Paper No 1. National Health Strategy, Melbourne. p38.

<sup>305</sup> Department of Employment, Education and Training. 1991. Ibid. p 89.

<sup>306</sup> Department of Employment, Education and Training. 1991. Ibid. p 39.

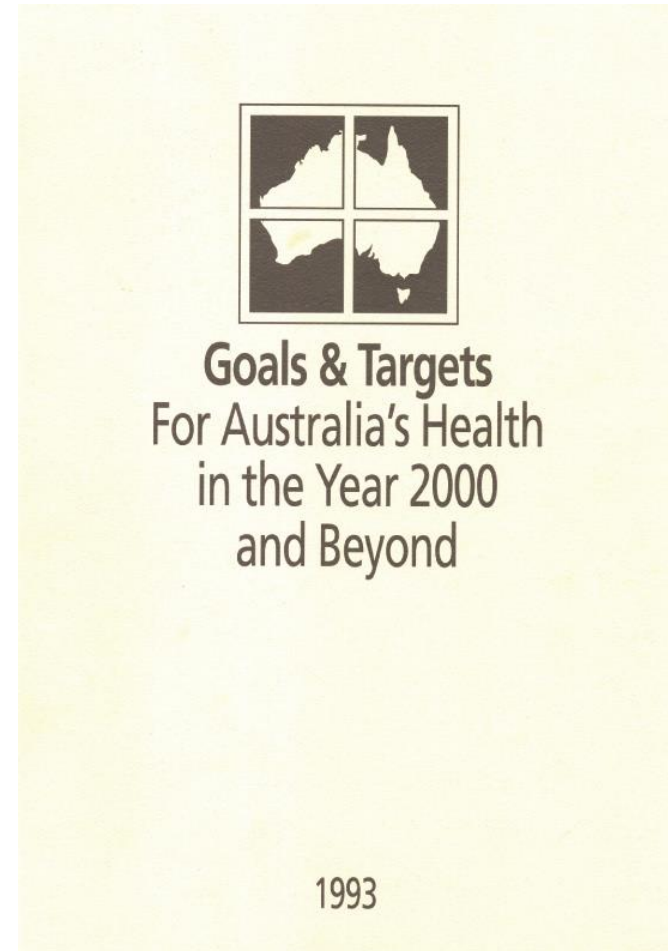
<sup>307</sup> Department of Employment, Education and Training. 1991. Ibid. p 33.

<sup>308</sup> Green I. & Kreuter M. 1991. *Health Promotion Planning: an educational and environmental approach*. 2nd Ed. Mayfield Publishing Co, Mountain View. p 155.

# Australia proposed health literacy goals in 1993

- To achieve the goals of the Australian Language and Literacy Policy
- To enhance knowledge and improve health literacy to enable people to make informed choices about their health
- To enhance knowledge and improve health literacy to enable people to take an active role in bringing about changes in the environments that shape their health

Nutbeam D, Wise M, Bauman A Harris E, Leeder S:  
*Goals and Targets for Australia's Health in the Year 2000 and Beyond*, Canberra, AGPS 1993



# Literacy is a contested concept - defining and measuring literacy

## *What is literacy?*

- Functional literacy is defined as a tangible set of **skills in reading and writing and the capacity to apply these skills in everyday situations**



## *Literacy is important*

- Literacy skills enable people to **better develop their knowledge and improve their potential to achieve personal goals.**
- Individuals are able to participate more fully in society and the economy.
- Literacy is both directly and indirectly related to health status

## Literacy has an impact on health

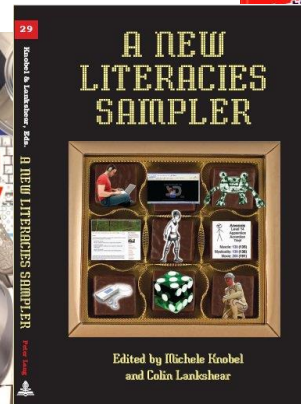
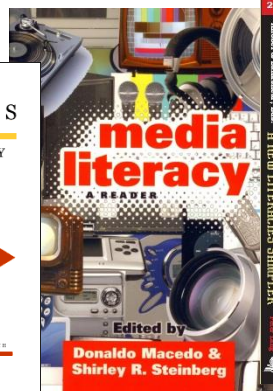
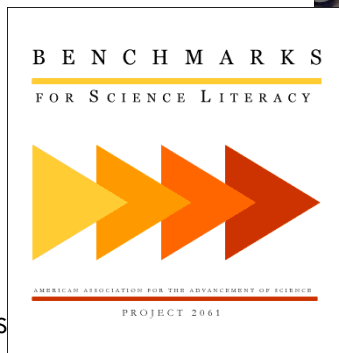
- Relationship between low literacy and a range of health related outcomes well established
- Some indirect effects related to employment and lifetime income
- Some direct effects of low literacy, individuals are\*
  - Less responsive to health education,
  - less likely to use disease prevention services, and
  - Less likely to successfully manage chronic disease

\*Berkman N D, Sheridan SL, Donahue KE, Halpern DJ, Crotty. 2011. Low Health Literacy and Health Outcomes: An Updated Systematic Review. *Annals of Internal Medicine*, 155, 97-107



# Literacy skills are significantly moderated by the context in which they are applied

- More accurate to talk about literacies for example:
  - Financial literacy,
  - Science literacy
  - Media literacy,
  - IT literacy (new literacy) and,
  - Health literacy





# Health literacy is a contested concept

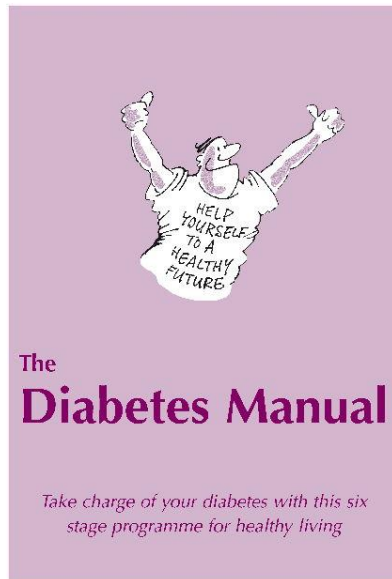
## Defining health literacy (Nutbeam's view)

- **Health literacy** is the possession of **literacy skills** (reading, writing and numeracy) and the **ability to perform the knowledge-based literacy tasks** (acquiring, understanding and using information) that are required **to make health related decisions** in a variety of different situations
- **Health literacy** describes an **observable set of skills that will vary from individual to individual.**
- Health literacy can be considered as a **clinical risk**, or **personal asset**
- **Health literacy** describes the **cognitive and social skills** which determine the motivation and ability of individuals **to gain access to, understand and use information** in ways which promote and maintain health\*

\*Nutbeam D. Health Promotion Glossary (1998) *Health Promotion International*, 13(4): 349-364. (also - WHO/HPR/HEP/98.1)

# Health literacy skills are also significantly moderated by the context in which they are applied – Stage in life and setting in which communication occurs

**A person in their 50s**  
with diabetes who  
is receiving patient  
education in a **clinic**



**A young person**  
receiving health  
education on illicit drugs  
at **school**

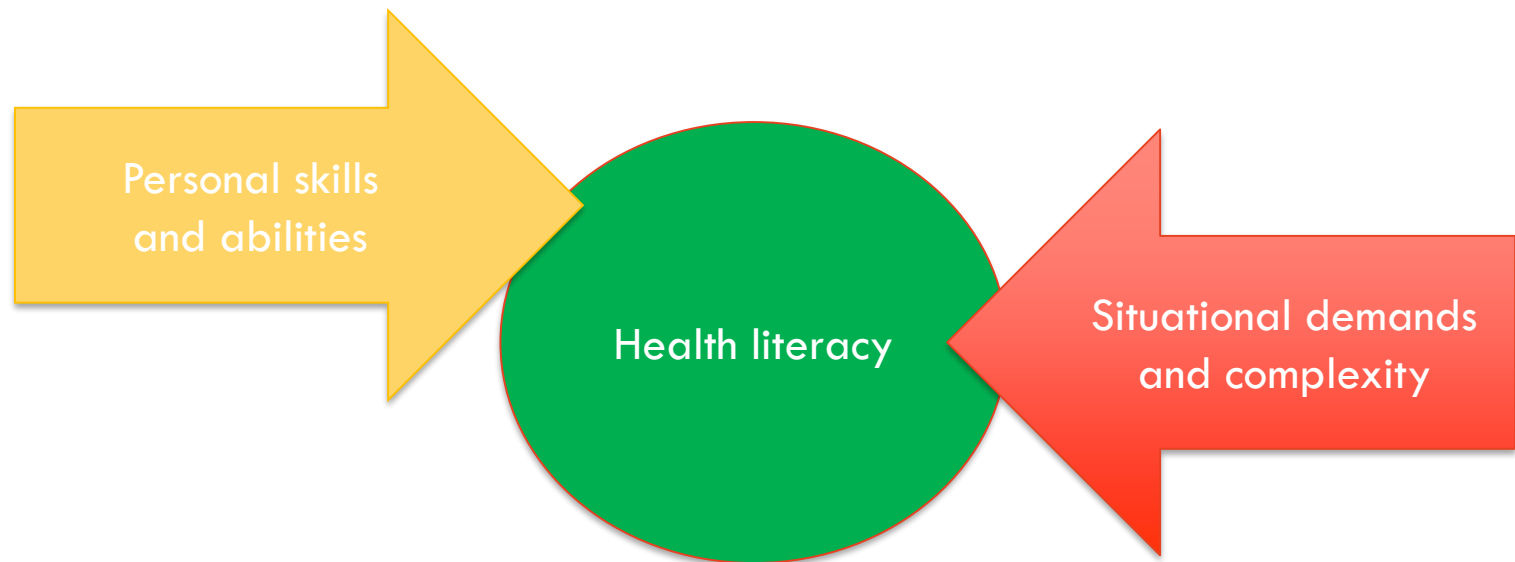


**A pregnant woman**  
attending  
ante-natal classes in the  
**community**



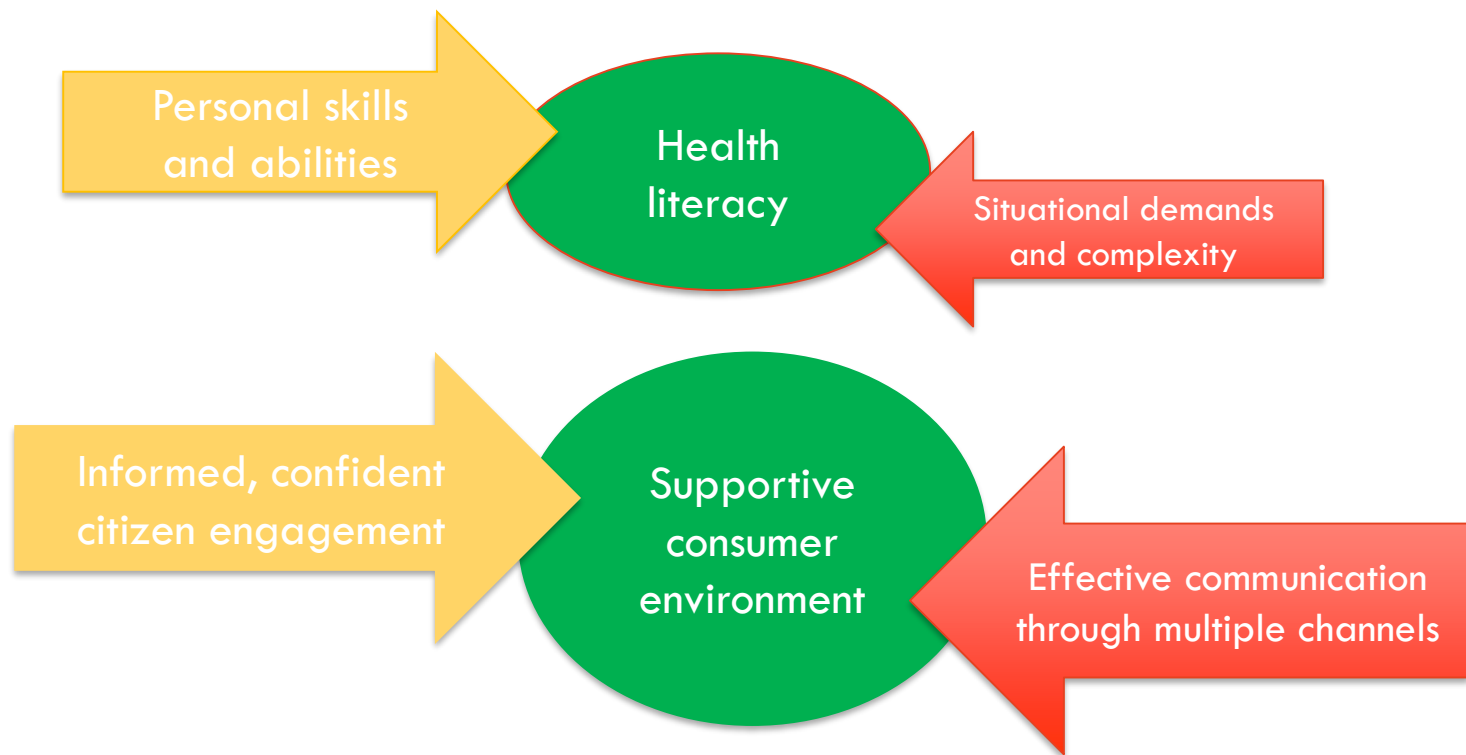
**Health literacy describes the ability of a person to acquire, understand and act on health information**

**Health literacy is determined by personal skills and context in which those skills are to be applied**



Adapted from Ruth Parker, Measuring health literacy: What? So what? Now what? In Hernandez L, ed. Measures of health literacy: workshop summary, Roundtable on Health Literacy. Washington, DC, National Academies Press, 2009:91–98

**Health literacy describes the ability of a person to acquire, understand and act on health information in varying contexts – how do we change things?**



# You can classify (and measure) relative differences in health literacy\*

## ***Functional health literacy***

- Basic health literacy skills that are sufficient for individuals to obtain relevant health information and apply that knowledge to a limited range of prescribed activities.

## ***Interactive health literacy***

- More advanced literacy skills that enable individuals to extract information and derive meaning from different forms of communication; to apply new information to changing circumstances; and to interact with greater confidence with information providers such as health care professionals.

## ***Critical health literacy***

- Most advanced cognitive skills which, together with social skills, can be applied to critically analyze information, and to use this information to exert greater control over life events and situations.

\*Nutbeam D. (2001) Health Literacy as a Public Health Goal: A challenge for contemporary health education and communication strategies into the 21st Century. *Health Promotion International*, 15; 259-67

# People move between categories of health literacy

*Functional, interactive* and *critical* health literacy are not static constructs

- Moving between categories of health literacy progressively indicates **greater autonomy in decision-making**, and personal empowerment.
- Progression between categories is not only dependent upon skills development (reading, writing, numeracy), but also **exposure to different forms of information** (content and media).
- It is also dependent upon a person's **confidence to respond to health communications** – described as *self-efficacy*.
- Both moderated by the **context in which communication occurs**



# We are getting better at measuring health literacy in clinical and community populations

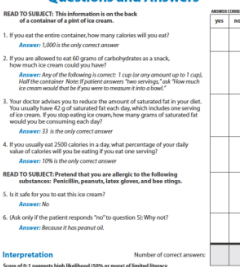
- Several simple measures of health literacy have been tested, refined and validated over the past 20 years for use as screening tools in clinical practice,
- These are generally insufficient to measure relative differences in health literacy and work is underway to develop more complex measures for health literacy,
- These measures include assessment of a person's ability to
  - gain access to age and context specific information from a variety of different sources;
  - discriminate between sources of information
  - understand and personalise health information that has been obtained
- appropriately apply relevant health information for personal benefit
- See: the *Health Literacy Toolshed*: <https://healthliteracy.bu.edu/>



Nutrition Facts		Serving Size	1/2 cup
Amount per serving		Servings per container	4
Calories	250	Fat Cal	120
Total Fat	13g	%DV*	20%
Sat Fat	8g		40%
Cholesterol	28mg		12%
Sodium	65mg		2%
Total Carbohydrate	30g		12%
Dietary Fiber	2g		
Sugars	23g		
Protein	4g		8%

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

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



**Score Sheet for the Newest Vital Sign Questions and Answers**

READ TO SUBJECT: This information is on the back of a container of a pint of ice cream.

1. If you eat the entire container, how many calories will you eat?  
**Answer:** 1,000 is the only correct answer.

2. If you are allowed to eat 60 grams of carbohydrates as a snack, how much ice cream could you have?  
**Answer:** Keep the following in mind: 1 cup for you amounts up to 1 cup. Half the container from if patient answers "two servings," ask "how much ice cream would that be if you were to measure into a cup?"  
**Answer:** 1/2 is the only correct answer.

3. Your doctor advises you to reduce the amount of saturated fat in your diet. This usually means 42 g of saturated fat each day, which includes one serving of ice cream. If you stop eating ice cream, how many grams of saturated fat would you be consuming each day?  
**Answer:** 10% is the only correct answer.

4. If you usually eat 1,000 calories in a day, what percentage of your daily value of calories will you be eating if you eat one serving?  
**Answer:** No.

5. Is it safe for you to eat this ice cream?  
**Answer:** Because it has peanut oil.

**Interpretation**

Score of 4-5 suggests high likelihood (80% or more) of functional literacy.  
Score of 3-4 indicates the possibility of limited literacy.  
Score of 2 or below suggests inadequate literacy.

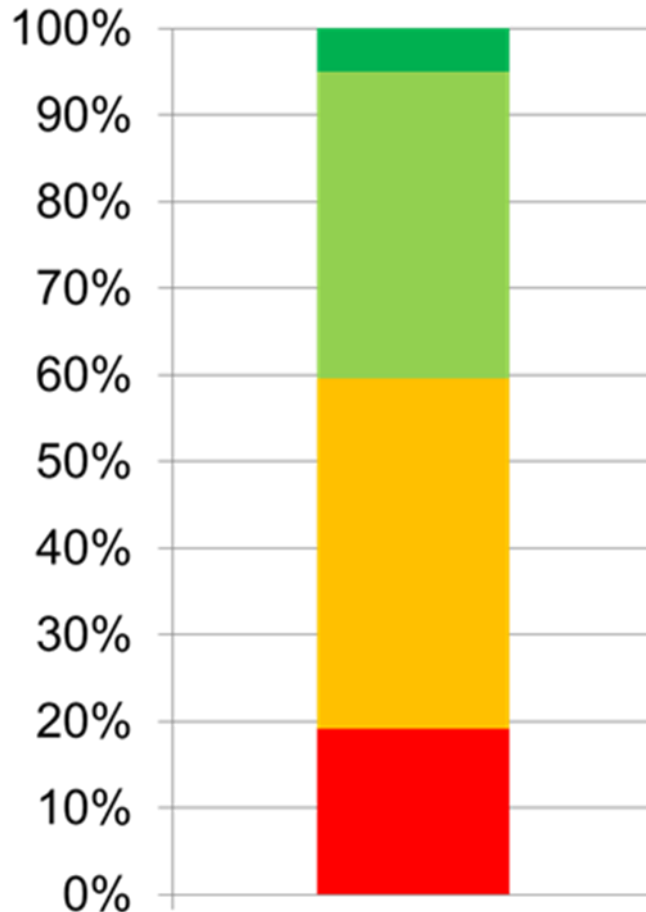
Number of correct answers: \_\_\_\_\_

yes no



# Poor health literacy is more common than most people think

Australian Bureau of Statistics 2008



- 41% of adults were assessed as having **adequate or better health literacy skills**, scoring at Level 3 or above.
  - Able to perform tasks such as combining information in text and a graph to **correctly assess the safety of a product**.
- Around one-fifth (19%) of adults had level 1 health literacy skills, with a further 40% having Level 2. These people had difficulty with tasks like:
  - **locating information on a bottle of medicine** about the maximum number of days the medicine could be taken, or
  - drawing a line on a container indicating where one-third would be (based on other information on the container).

# Health literacy matters

- in a health care system where there is
  - need for more effective prevention,
  - commitment to patient centred care, and
  - greater than ever dependence on patient self-management of chronic conditions.
- There is a strong social gradient in the population, with lower levels of health literacy much more common among the socially and economically disadvantaged.
- Those with greatest need are generally least able to respond to the demands of the health care system



# Health outcomes can be improved through better communication

- In clinical practice, there is broadly consistent evidence\* that comprehension of health information among individuals with low health literacy **can be improved** through modifications to communication, and changes to the clinical environment
- These deliver improved health outcomes including
  - Improved medication use
  - Improved self-management of conditions
  - Reduced reported disease severity,
  - Reduced unplanned emergency department visits, and
  - Reduced hospital use

\*Sheridan et al. (2011). Interventions for individuals with low health literacy: a systematic review. *Journal of Health Communication*, 16(s3): 30-54.

# We need to put into practice what works

Low health literacy can be improved through:

- Modifications to communication, for example by using **simplified text and pictures** in written communications
- Placing emphasis on building knowledge and cognitive skills, for example by using **teach-back methodologies**
- Modifications to **organisation of health services** to reduce the “literacy burden” on patients and visitors

\*Sheridan et al. (2011). Interventions for individuals with low health literacy: a systematic review. *Journal of Health Communication*, 16(s3): 30-54.

## Words to avoid in patient consultations

Word types to avoid	Definition	Example word	Alternative word
Medical words	Used to describe health	Condition	How you feel
		Dysfunction	Problem
Concept words	Used to describe an idea	Avoid	Do not use
		Wellness	Good health
Category words	Used to describe a group	Adverse	Bad
		High-intensity exercise	Use a specific example
Value judgment words	Require an example to convey their meaning	Adequate	Enough
		Significantly	Enough to make a difference

Created with information provided by the National Patient Safety Foundation.



# We should use communication methods that work:

**Teach-back – four steps to improving patient understanding and successful adherence with medical advice.**

**1. Clinicians must accept the burden of communication** - “I have covered a lot of information today and I want to make sure I did a good job of explaining this.”



**2. The communication should focus on a specific behaviour**

“Can you tell me when and how you will take this medicine?”

**3. The patient should be reassessed** and instructions should be explained again in a different manner as needed

**4. Clinicians should continue to explain** until both they and the patient agree that the information has been understood.



# We should use communication methods that work:

## Shared decision-making - AskShareKnow

1. What are my options?  
(One option will always be wait and watch)
2. What are the possible benefits and harms of those options?
3. How likely are each of those benefits and harms to happen to me?

# We need more attention on improving health literacy in community populations

- 2016\* review revealed relatively little research to guide interventions to improve health literacy in “healthy” populations.
- Concern that the use of “health literacy” in titles and key words indicates that it may have become a **fashionable way of re-labelling behaviour change interventions**
- Paucity of examples of the **skills-development** methods and learning theories that exemplify health literacy concept, compared with traditional **task-directed** health education interventions
- There is an **encouraging pipeline** of intervention studies that have reported protocols but not yet results.
- Overall, **evidence to support the implementation of national policies and programs is not emerging as quickly as needed.**
- The academic interest and attractive rhetoric surrounding health literacy needs to be **tested more systematically through intervention experimentation in different populations using valid and reliable measurement tools.**

# Patient activation



# Patient activation

- Describes “the knowledge, skills and confidence a person has in managing their own health and health care”
- Narrower but highly complementary concept to health literacy (my colleagues have used the Patient Activation Measure in our research – but found no added effects after controlling for baseline health literacy\*)
- Like health literacy runs same risks of:
  - Focussing attention on patients and de-emphasising context/environment
  - Focussing on behavioural goals at the expense of skills development
  - Failing to engage successfully more disadvantaged populations
  - Promising more than it can deliver
- BUT is an important entry point for a more comprehensive set of activities for improving health literacy

\*McCaffery K, Morony S, Muscat D; Smith S, Shepherd H, Dhillon H, Hayen A, Luxford K, Meshreky W, Comings J, **Nutbeam D**  
Evaluation of an Australian health literacy training program for socially disadvantaged adults attending basic education classes: study protocol for a cluster randomised controlled trial. BMC Public Health (2016) 16:454

# Practicing my preaching

- Interventions to improve the usefulness of **decision-aids** for low literacy populations

Smith S, Trevena L, Simpson J, Barratt A, **Nutbeam D**, McCaffery K; A decision aid to support choices about bowel cancer screening among adults with low education: a randomized controlled trial; 2011, *British Medical Journal*. 341.c5370

- Interventions to test efficacy of **online, interactive patient education** for diabetes education

Muller I; Rowsell A; Stuart E; Hayter V; Little P; Ganahl K; Müller G; Doyle G; Chang P; Lyles CR; **Nutbeam D**; Yardley L. Effects on Engagement and Health Literacy Outcomes of Web-Based Materials Promoting Physical Activity in people with Diabetes: An International Randomized Trial. *J Med Internet Res*. 201 vol. 17 9.1 doi:10.2196/jmir.6601

- Interventions to improve patient and allied health professionals **understanding of falls prevention strategies** for older people living in the community

Brooks C, Ballinger C, **Nutbeam D**, Adams J: The importance of building trust and tailoring interactions when meeting older adults' health literacy needs, *Disability and Rehabilitation*, 2016 doi: 10.1080/09638288.2016.1231849

- Interventions to improve health literacy in an **adult learner population** in NSW TAFE

Muscat, D.M., Morony, S., Shepherd, H.L., Smith, S.K., Dhillon, H., Trevena, L., Hayen, A., Luxford, K., **Nutbeam, D.**, & McCaffery, K. Development and field testing of a consumer shared decision-making training program for adults with low literacy. *Patient Education and Counselling*, 2015. doi: 10.1016/j.pec.2015.07.023

- Interventions to test usefulness of “teach-back” methodology in a **telephone counselling service**

- Morony, S; Weir, K; Duncan, G; Biggs, J; **Nutbeam, D**; McCaffery, K Experiences of Teach-Back in a Telephone Health Service. *Health Literacy Research and Practice* 2017;1(4):e173-e181

## The Sydney Health literacy laboratory

# Practicing my preaching..... in Western Sydney 2017-

## The Sydney Health Literacy Hub

- **Developing staff capacity:** for productive communication with patients, carers and the wider community, accounting for the variation in health literacy among our diverse population
- **Creating a health literate organisation:** promoting service and infrastructure developments that are sensitive to the variation in health literacy among our diverse population
- **Fostering a culture of innovation and learning:** that leverages off our relationship with the Sydney health literacy laboratory
- **Creating a community of practice:** among those who have an interest in improving health literacy in the health system and connect them to education and research opportunities
- **Supporting our centre of research excellence:** contributing directly to Sydney health literacy laboratory research and development projects that test innovations to improve health literacy in our diverse populations.



## Conclusions – the stakes are high

- Health literacy fundamentally dependent upon **levels of basic literacy** in the population
- Definition and measurement of **health literacy still evolving** and can usefully draw down on existing concepts, definitions and measurements from general literacy
- Inadequate health literacy is **more common than expected**, and is most common among those who are already socially disadvantaged. If we don't change our approach we will increase existing inequalities
- Higher levels of health literacy in a population support a wide range health actions to prevent ill-health and better manage existing illness

# Conclusions - Opportunities exist

## WHO 9<sup>th</sup> Global Conference on Health Promotion

### The Shanghai Declaration 2016 – health literacy



The image is a blue-themed poster for the 9th Global Conference on Health Promotion in Shanghai (21-24 November, 2016). It features a stylized city skyline at the bottom and a logo in the top right. The main title is 'Shanghai Declaration on promoting health in the 2030 Agenda for Sustainable Development'. A section titled 'Health literacy empowers and drives equity' includes a paragraph and a list of commitments.

9th Global Conference  
on Health Promotion  
Shanghai · 21-24 November, 2016

## Shanghai Declaration on promoting health in the 2030 Agenda for Sustainable Development

### Health literacy empowers and drives equity

Health literacy empowers individual citizens and enables their engagement in collective health promotion action. A high health literacy of decision-makers and investors supports their commitment to health impact, co-benefits and effective action on the determinants of health. Health literacy is founded on inclusive and equitable access to quality education and life-long learning. It must be an integral part of the skills, and competencies developed over a lifetime, first and foremost through the school curriculum.

**We commit to**

- recognize health literacy as a **critical determinant of health** and invest in its development;
- develop, implement and monitor intersectoral ***national and local strategies for strengthening health literacy in all populations and in all educational settings;***
- ***increase citizens'*** control of their own health and its determinants, through harnessing the potential of digital technology;
- Ensure ***that consumer environments support healthy choices*** through pricing policies, transparent information and clear labelling.

# Conclusions – we need to put into practice what we know to be effective

- Focussing health education and communication on the development of **health literacy skills across the life-course**,
- Harnessing the potential of **digital technologies**
- **Developing capacity** (among educators and clinicians) to respond successfully to the challenges of low health literacy through **professional education and CPD**
- Creating consumer environments that are supportive for health, specifically in the NHS ensuring service organisation and delivery is **sensitive to low health literacy**
- Successful educational interventions tend to be based on
  - more **interactive and personalized forms of communication**
  - **wider content that encompasses the social and commercial determinants of health** to support a broader range of outcomes

# Conclusions – we need more intervention research

- Interventions that are **context and content relevant** are likely to be more successful in producing sustainable change. These include:
  - linked to critical life stages (eg adolescence, parenthood, aging and retirement) and
  - life events (eg diagnosis of pre-diabetes/diabetes)
- Intervention development still at an early stage, more experimentation, better measurement and better evaluation is needed, especially in community settings

**The end**  
**Thanks for your attention**