

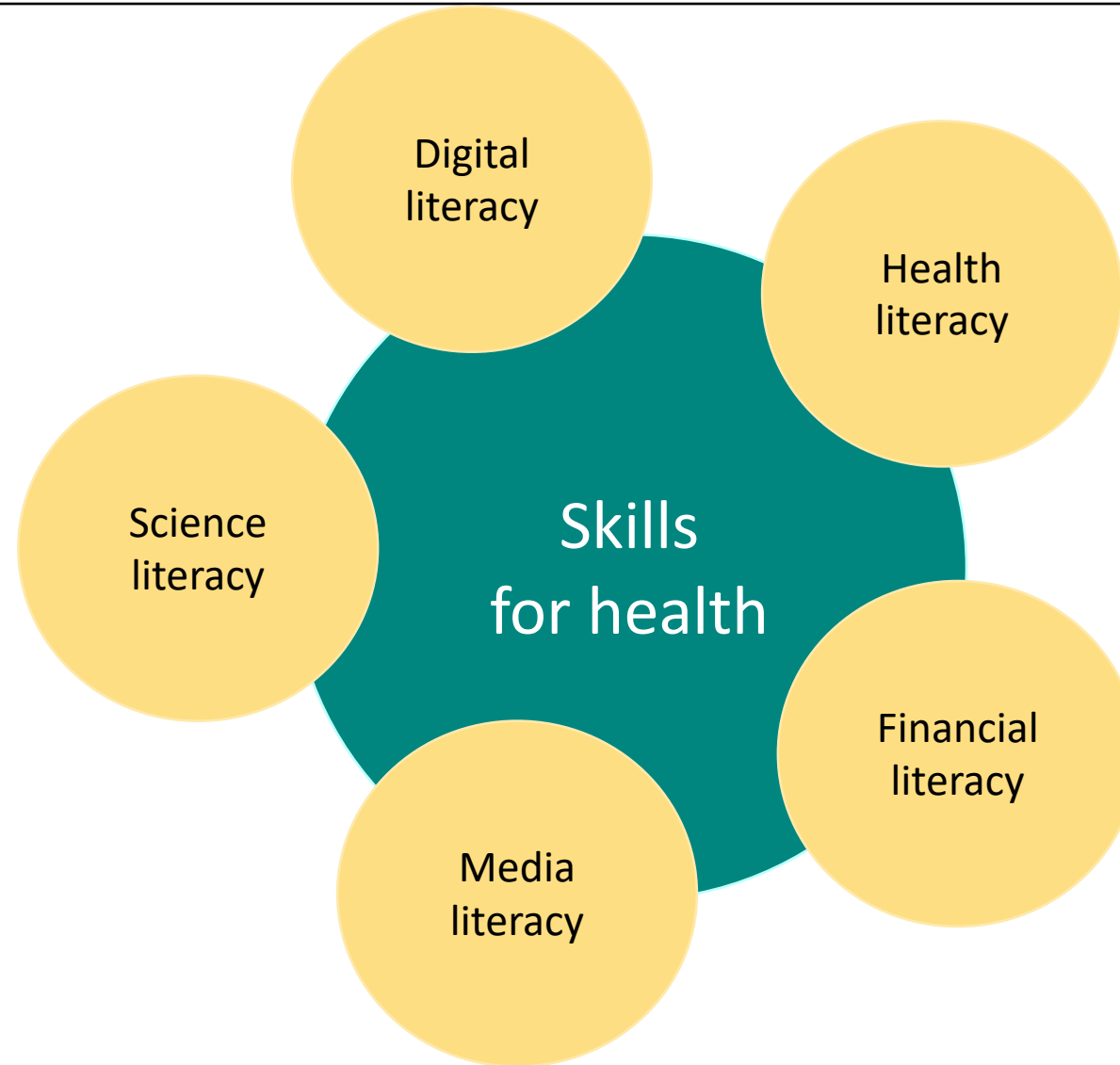
Health literacy and digital health literacy: what are they and how do we measure them?



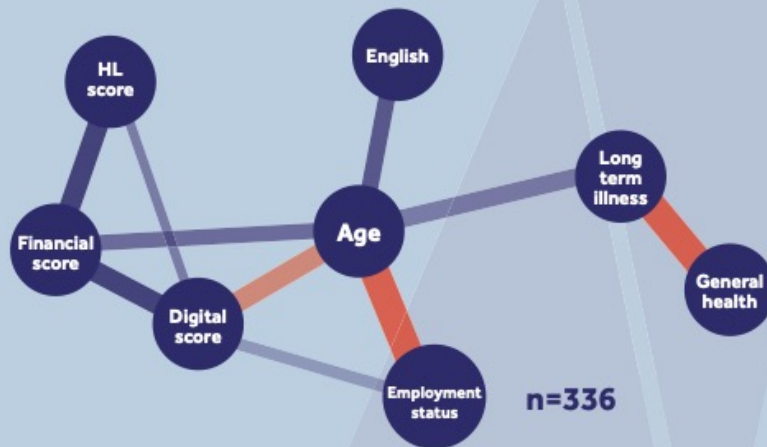
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Tuesday, 21 June 2022

From Newcastle. **For the world.**



NETWORK ANALYSIS



HEALTH / DIGITAL / FINANCIAL LITERACY SURVEY

COLLECTION METHOD	RESPONSE
BETTER POINTS	1010
FACEBOOK	29
POSTAL/ONLINE	353

Some definitions

- Health literacy
- Digital health literacy

Why are literacies for health important

Developing skills

Measuring health literacy and digital literacy

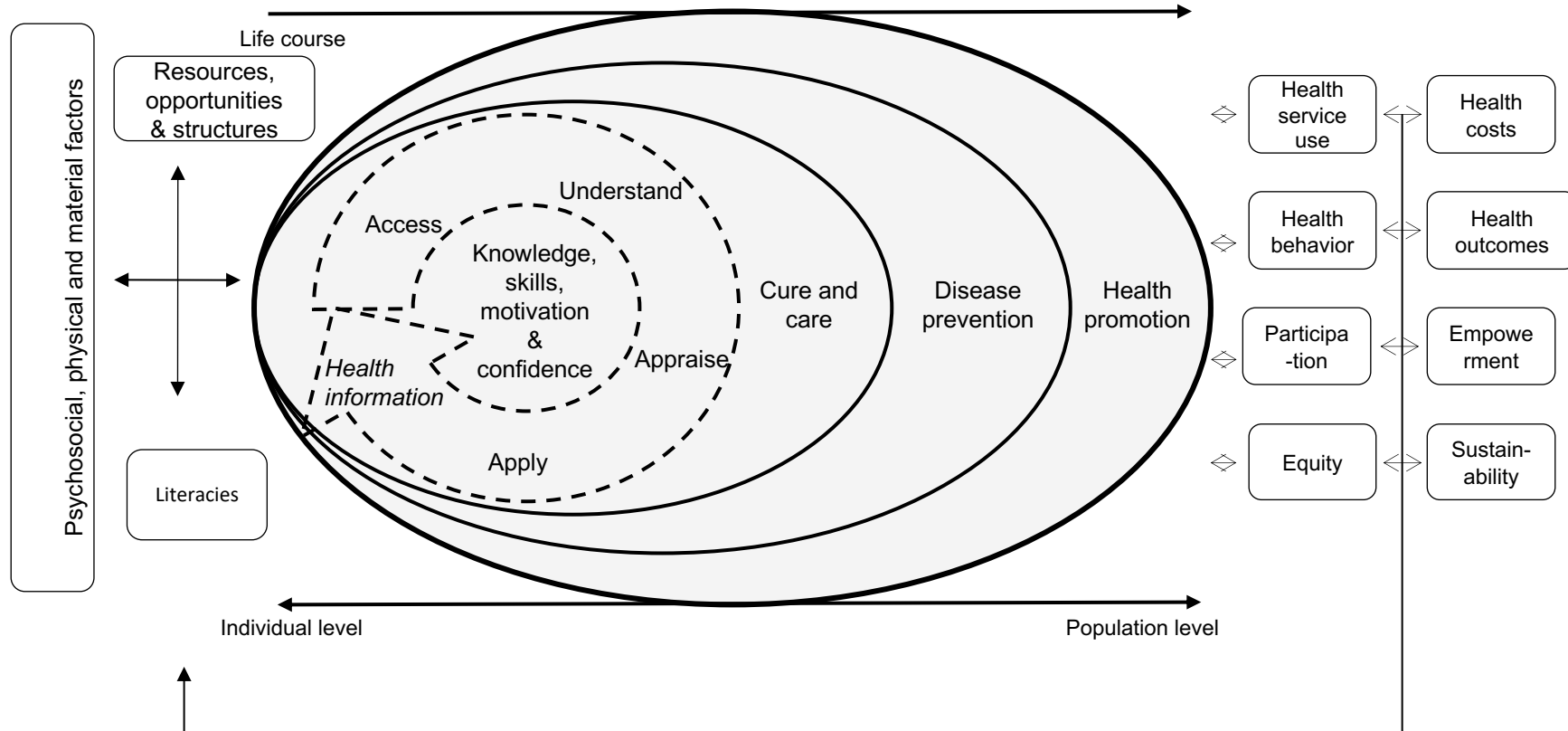
Summary

Definitions

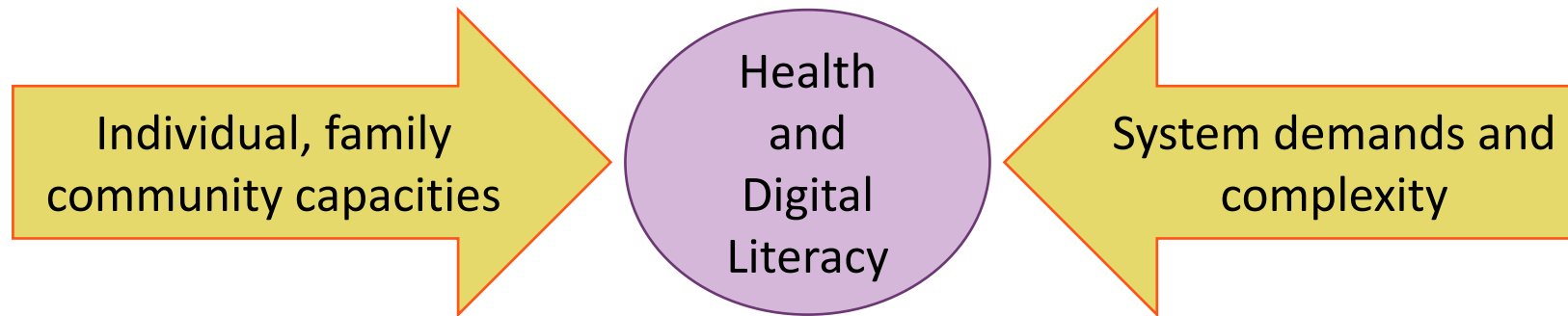
- (Health literacy is) the motivation, knowledge and competencies to access, understand, appraise and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life throughout the course of life' ¹
- (Digital health) is the convergence of the digital revolution and genetics revolutions within healthcare...empowering us to better track, manage and improve healthcare...reduce inefficiencies in healthcare delivery, improve access, reduce costs, increase quality, and make medicine more personalised.' ²
- (Digital health literacy is) the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem³

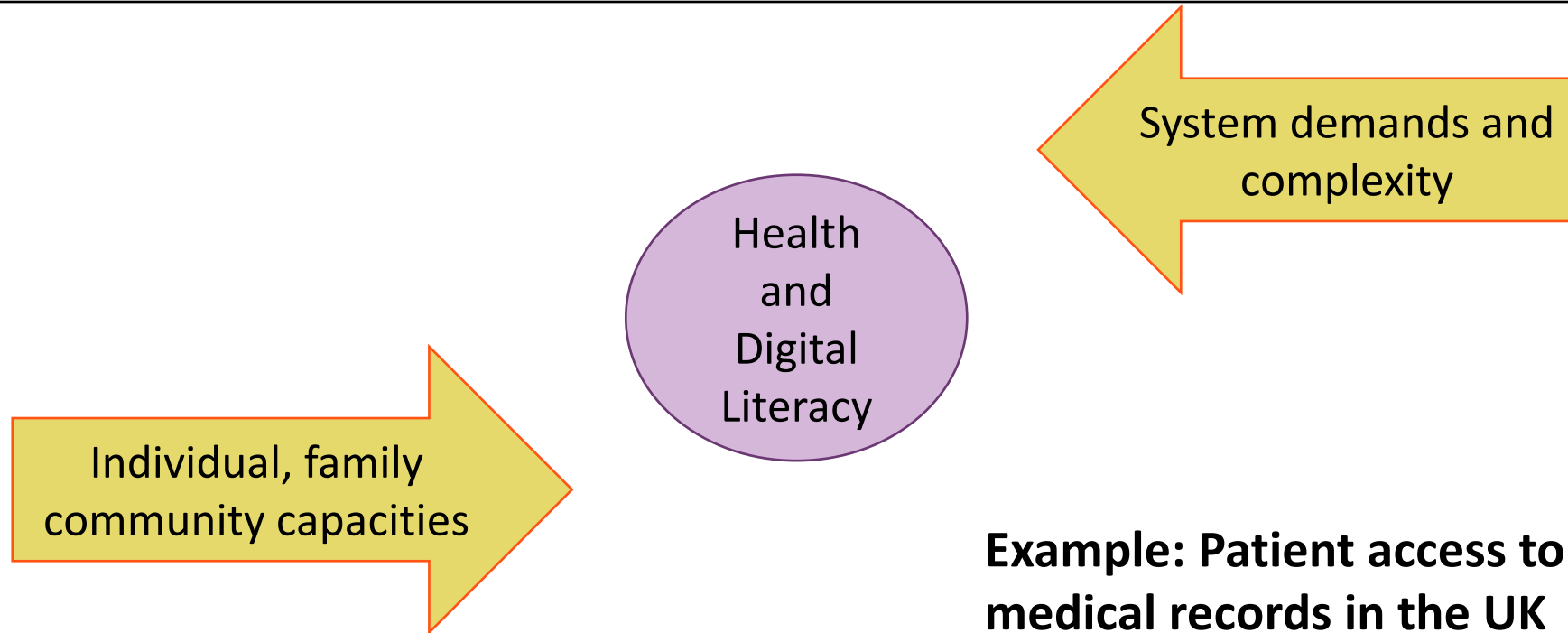
(1) Sorensen K, Van den Broucke S, et al 2012 (2) Digital Health Institute: <http://dhi-scotland.com/about-dhi> (3) Norman 2006

Health literacy conceptual model



Sorensen K et al: Health literacy and public health: A systematic review and integration of definitions and models, BMC Public health, 2012





Example: Patient access to their own medical records in the UK

Capability: technology available to 92% of patients

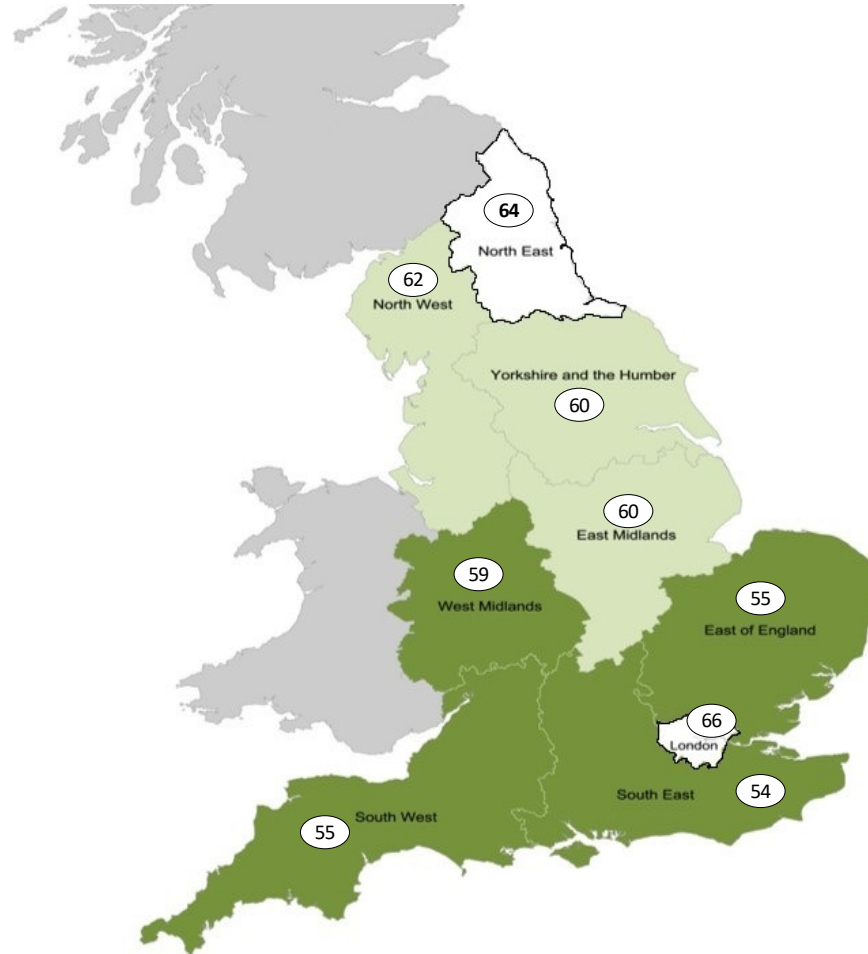
Awareness: 5.2% of patients aware that this is available

Usage: 0.9% of patients used the service

Why are literacies for health important?



Prevalence: the percentage of adults aged 16-65 years for whom health information is too complex

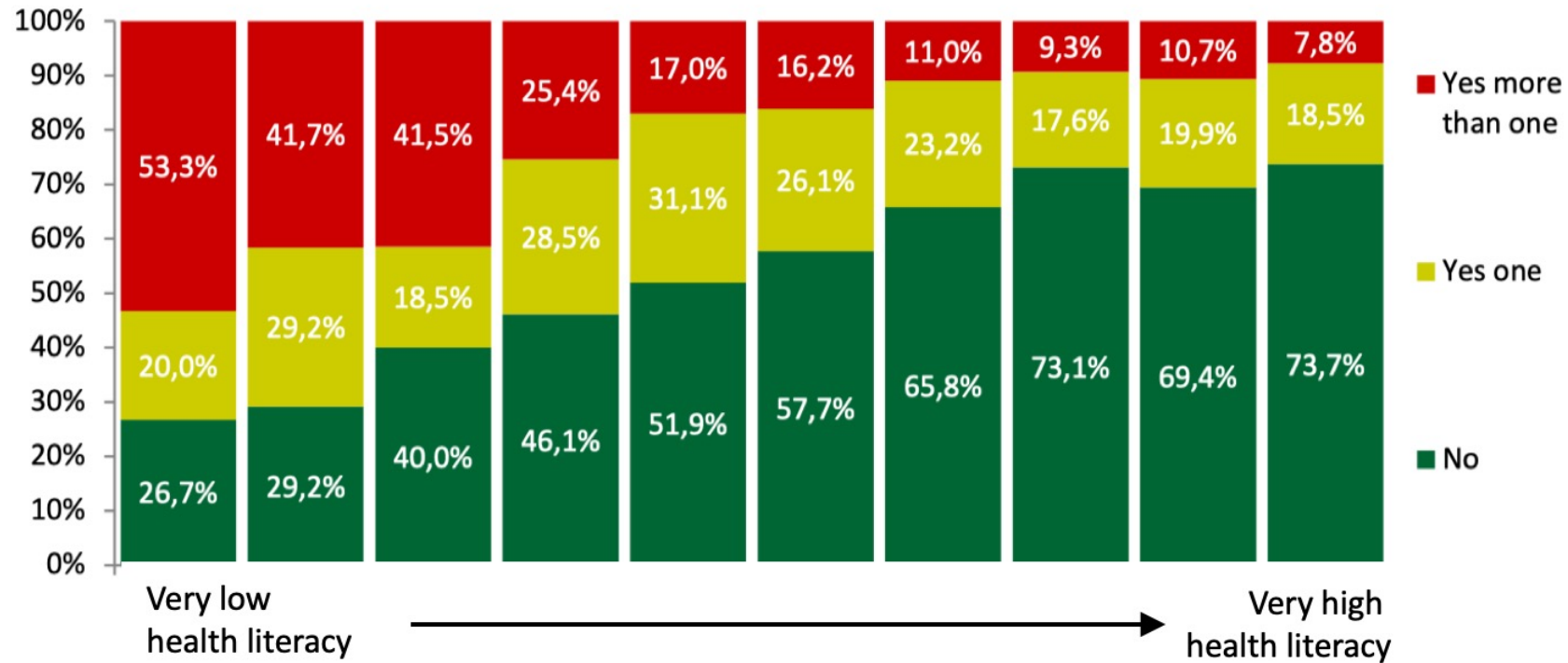


**Text (literacy)
AND
Numeracy
component of
health materials**

**National average
61%**

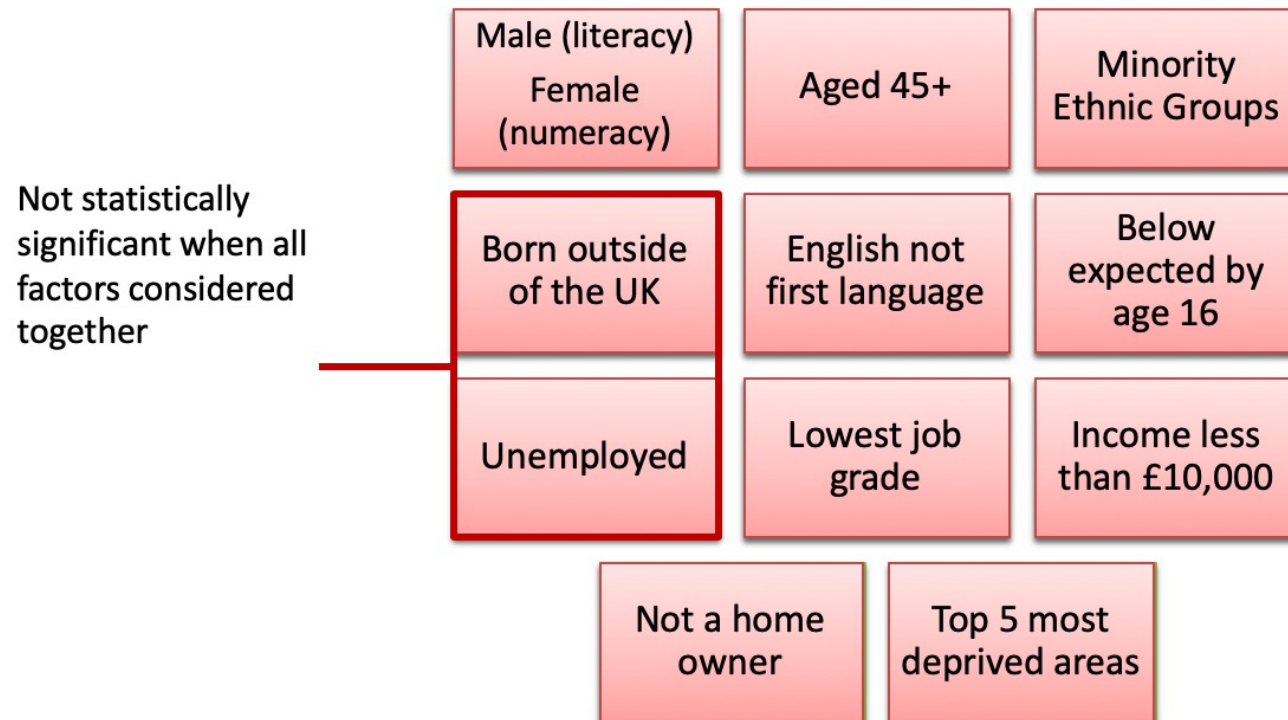
Rowlands et al (2015)

Impact: health literacy and long-term health conditions



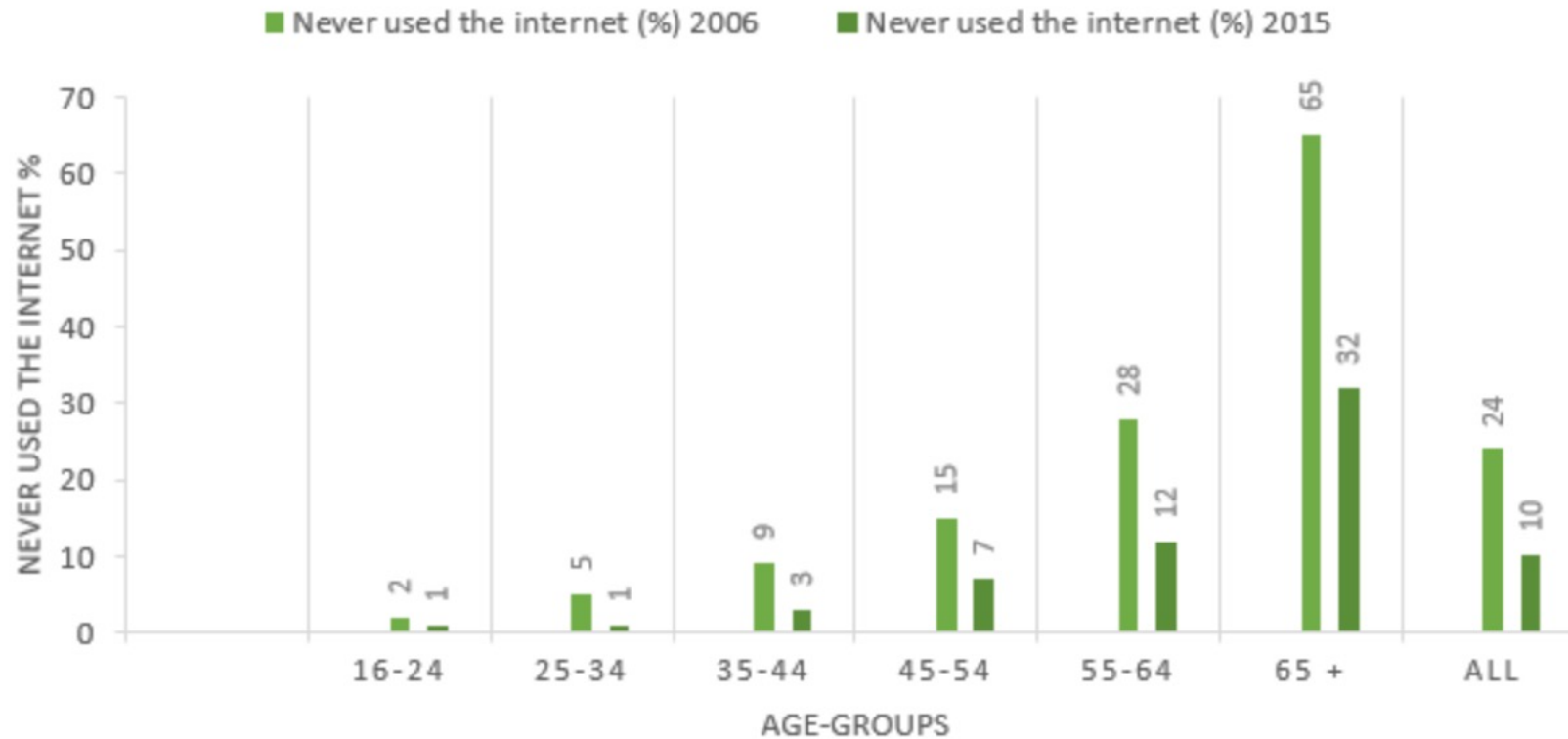
European health literacy survey 2012

Inequalities: Characteristics of those at highest risk of being below the health literacy threshold



Rowlands et al (2015)

FREQUENCY OF COMPUTER USE, BY AGE GROUP, 2006 AND 2015



Significance (Website of the UK Royal Statistical Society)

Inequalities: Socio-demographic patterns: internet use

	Never used the internet?
No formal qualifications	55%
Degree level education	2%
Semi-routine or routine occupation	33%
Management or professional occupation	9%
Annual income less than £20,000	17%
Annual income more than £43,000	2%

Significance (Website of the UK Royal Statistical Society)

Compared with people with higher health literacy, people with low health literacy are less likely to have access to the internet (Odds Ratio 10.75, 95% CI 7.08 to 16.33, $p < 0.0001$) or to use the internet to gather health information (OR 2.35, 95% CI 1.53 to 3.60, $p < 0.001$)

Estacio & Protheroe, 2017.

Actions:

what would happen if we increased skills for health in the most socially disadvantaged group?

	Low socio-economic status	Middle socio-economic status	High socio-economic status	All
% with a long-term health condition	40*	29	25	29

*risk of having a long-term health condition significantly associated with also having low health literacy

Gibney, Rowlands et al (2020)

Building skills

Building health literacy through the school curriculum: Finland



Helsinki: Board of Education;
2013

Building digital literacy skills: UK

Socio-economically
deprived.
Communities
Digital 'muggles'

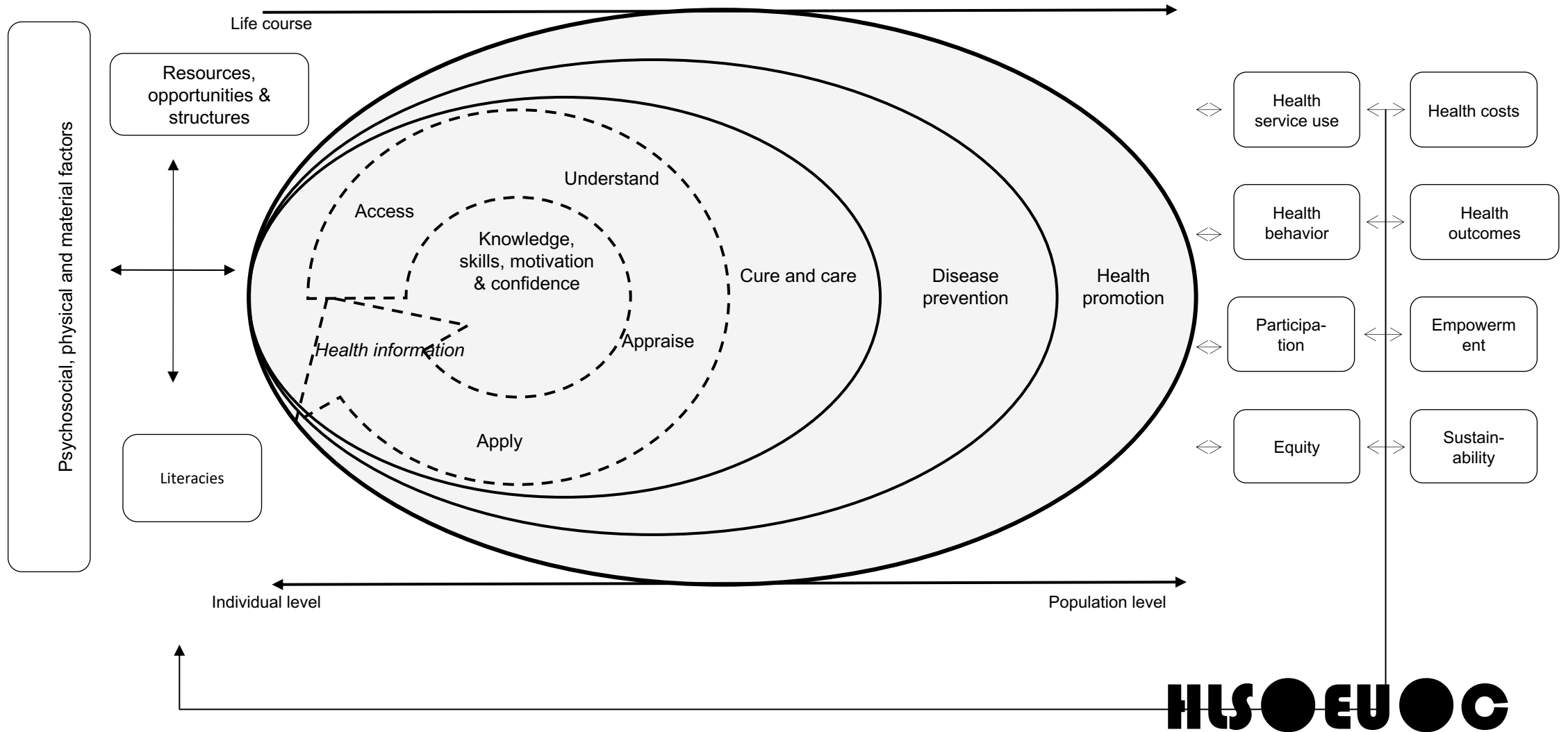
Locally embedded
groups that
developed skills to
identify and use the
health information
they needed

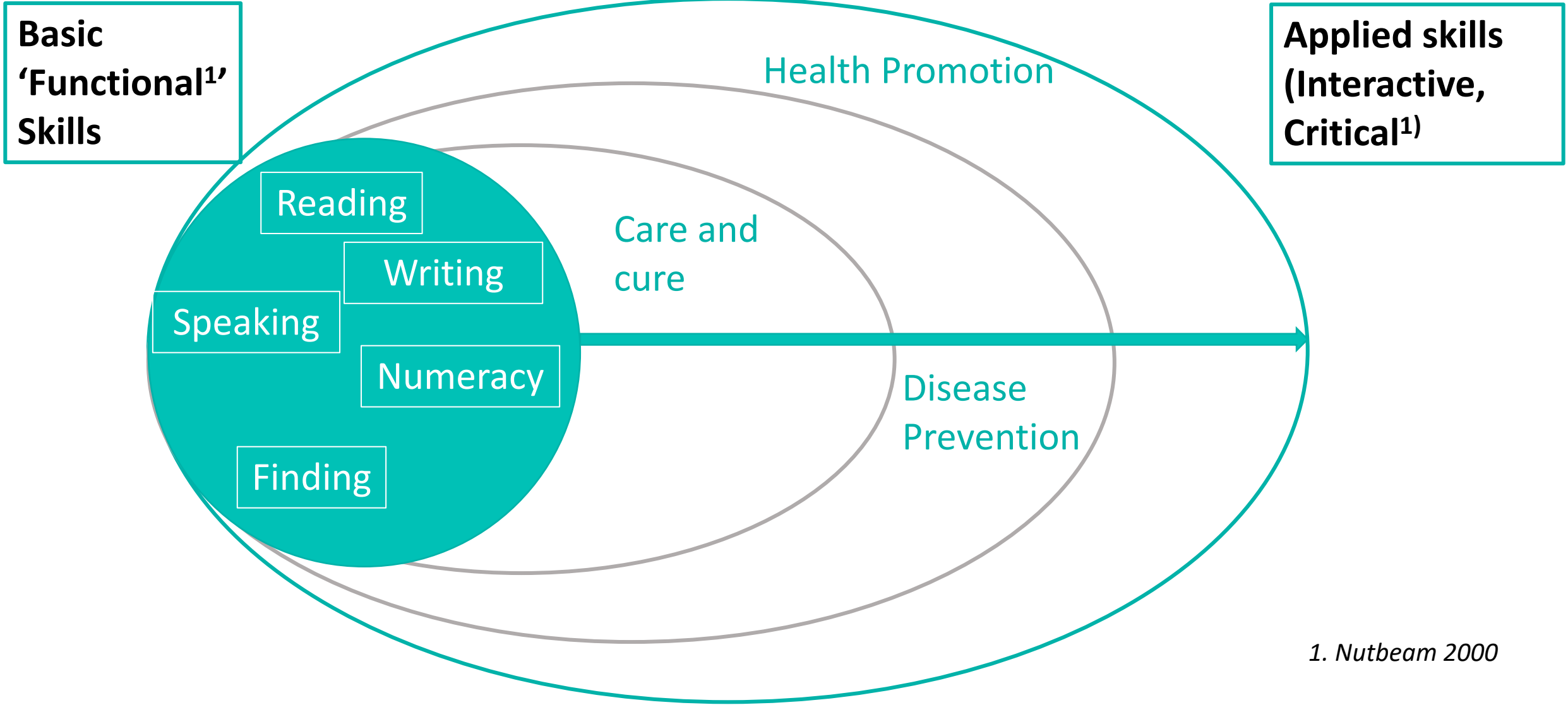
Outcomes:

Skills to find
information on

- How to access health services
- Illnesses and how to recognize and manage them
- ways to improve health and wellbeing.

Measuring health and digital literacies





1. Nutbeam 2000

Health Literacy Tool Shed

A database of health literacy measures

Search by Name of Measure

GO

Home

Find Measures

Glossary

Suggest a Measure

About

Health Literacy Tool Shed

Find the right health literacy measurement tool
for your research.

Find Measures ▶



<https://healthliteracy.bu.edu/>

Health literacy measures - examples

Measure	Type	Reference	access
Newest Vital Sign	Basic skills	Rowlands G et al	gill.rowlands@newcastle.ac.uk
HLS 19 general measures	Applied skills	MPOHL group	https://m-pohl.net/tools
Digital Health Literacy Instrument	Basic and applied skills	van der Vaart R et al	r.van.der.vaart@fsw.leidenuniv.nl
HLS 19 digital measures	Applied skills	MPOHL group	https://m-pohl.net/tools

Newest Vital Sign

Product Description: Ice Cream

Serving Size: 100ml

Servings per container: 4

NUTRITIONAL INFORMATION	
<i>TYPICAL VALUES</i>	<i>Per 100ml</i>
Energy	1050 kJ
	250 kcal (calories)
Protein	4 g
Carbohydrate	30 g
of which sugars	23 g
Fat	13 g
of which saturates	9 g
of which monounsaturates	0 g
of which polyunsaturates	3 g
of which trans fats	1 g
Fibre	0 g
Sodium	0.05 g

Ingredients: Cream, Skimmed Milk, Sugar, Whole Egg, Stabilisers (Guar Gum), Peanut Oil, Vanilla Extract (0.05%).

Digital Health Literacy Instrument

6. Below (figure 1) you see part of the home page of the website www.kiesbeter.nl, a national website which provides information on healthcare and care providers in the Netherlands.

If you were to minimize this page, to open another program on your computer. Which button would you use?

- Button 1 
- Button 2 
- Button 3 
- Button 4 
- I don't know

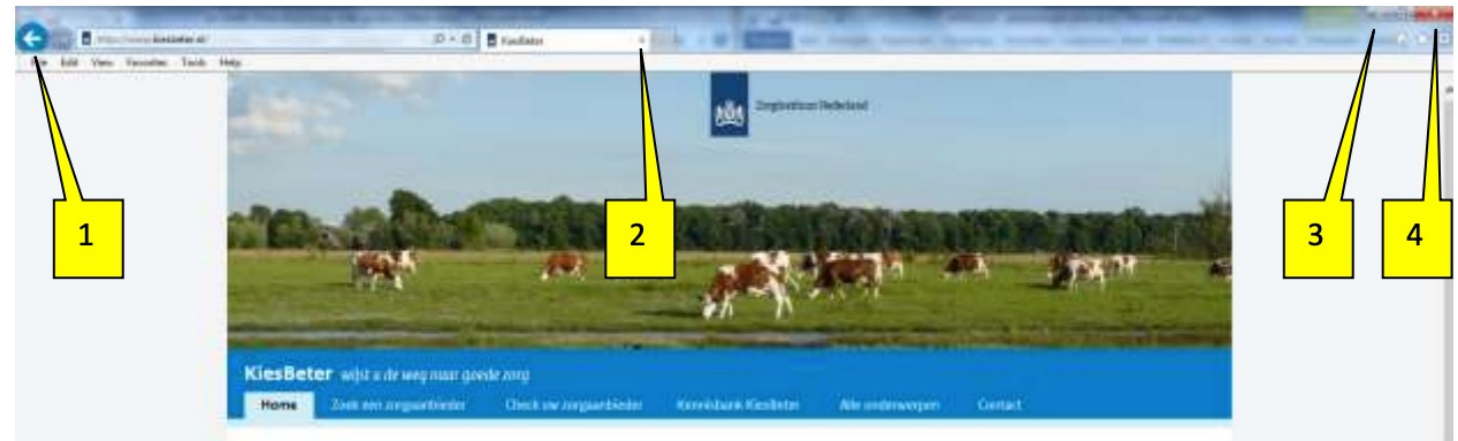


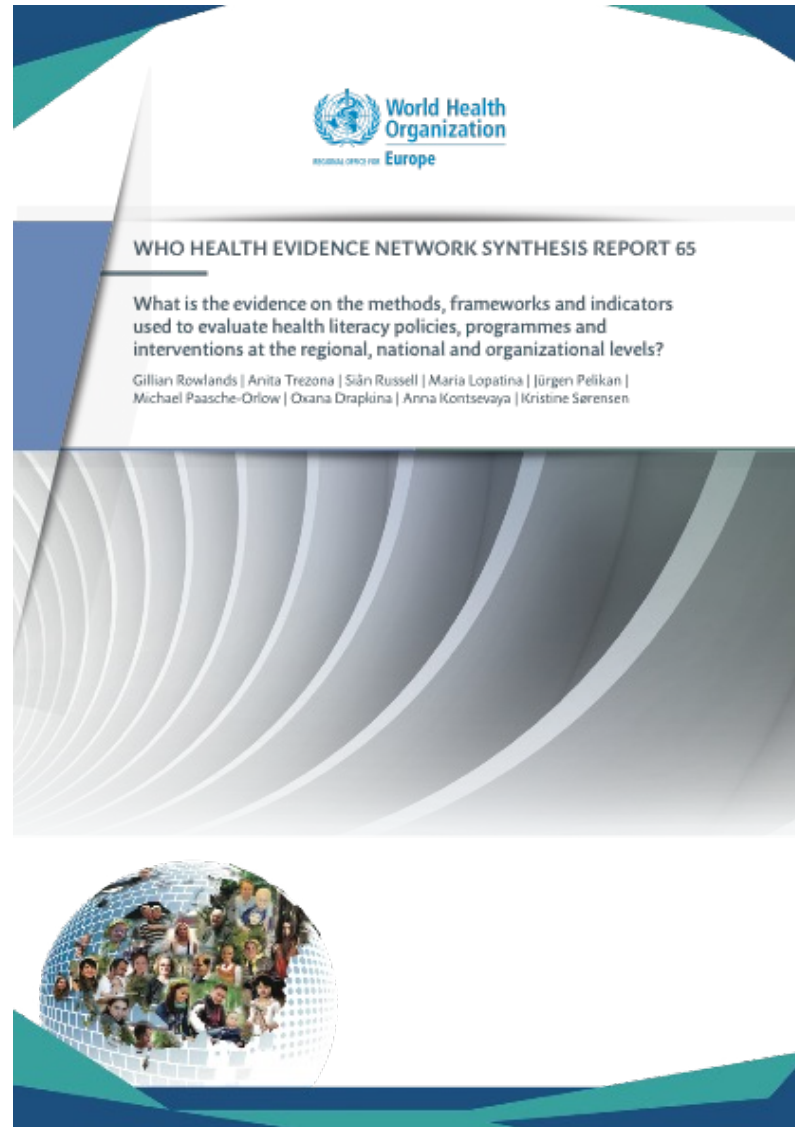
Figure 1

HLS 19

When you search online for information on health, how easy or difficult is it for you ...

	Very easy	Easy	Difficult	Very difficult	DK / Refusal (SPONTANEOUS)
... to use the proper words or search query to find the information you are looking for?	4	3	2	1	999
... to find the exact information you are searching for ?	4	3	2	1	999
... to understand the information?	4	3	2	1	999
... to judge whether the information is reliable?	4	3	2	1	999
... to judge whether the information is offered with commercial interests?	4	3	2	1	999
... to visit different websites to check whether they provide similar information about a topic?	4	3	2	1	999
... to judge whether the information is applicable to you?	4	3	2	1	999
... to use the information to help solve a health problem?	4	3	2	1	999

What else should be measured? Evaluation frameworks



<https://apps.who.int/iris/bitstream/handle/10665/326901/9789289054324-eng.pdf>

- There are a range of skills needed for health: general health literacy and digital health literacy are two important skills
- There are a range of definitions and concepts; identifying the relevant concept to the area under study is important and will guide your choice of measure
- Literacies for health are important:
 - Lower skills levels are prevalent
 - Lower skills are associated with lower levels of health and higher levels of illness
 - There is a social gradient
 - Skills can be built and may improve health and reduce health inequalities
- Literacies for health can be measured: interventions to improve health literacy should aim to capture changes in health literacy, within a wider evaluation framework