

# Health Literacy

## An overlooked tool for metabolic health and MASLD care delivery

**Richard Osborne, BSc, PhD**

NHMRC Investigator Fellow (L3)

Director, Centre for Global Health and Equity

Professor of Health Sciences, Swinburne University of Technology, Melbourne, Australia

Co-lead, WP6 Health Literacy, EU4Health Joint Action on Heart Disease and Diabetes (JACARDI)

Prof (Hon), University of Copenhagen, Denmark &

Prof (Hon), NOVA University of Lisbon, Portugal.

Senior Associate, Sante publique France, France

[rosborne@swin.edu.au](mailto:rosborne@swin.edu.au)

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Centre for Global Health and Equity,  
Swinburne University of Technology, Melbourne, Australia

# Disclosures

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  - Australian National Health and Medical Research Council (NHMRC)
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  - Sante publique France
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# Health Literacy is a way to understand:

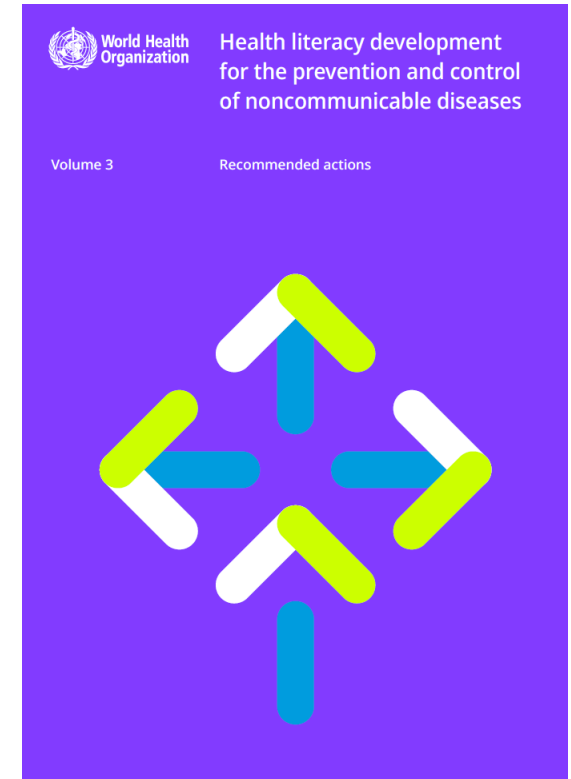
- what are people's health information needs
- why some people don't know what to do to look after their health
- why using medications and changing lifestyle can be so difficult for some people
- why many of our interventions are so ineffective and exclude many people
- what **we** need to do to improve service quality and effectiveness for all people

... and much more

# Definition: Health literacy of an individual (WHO 2022)

As viewed from a globally relevant perspective, this is people's **knowledge, confidence and comfort** – which accumulate through daily activities and social interactions and across generations to

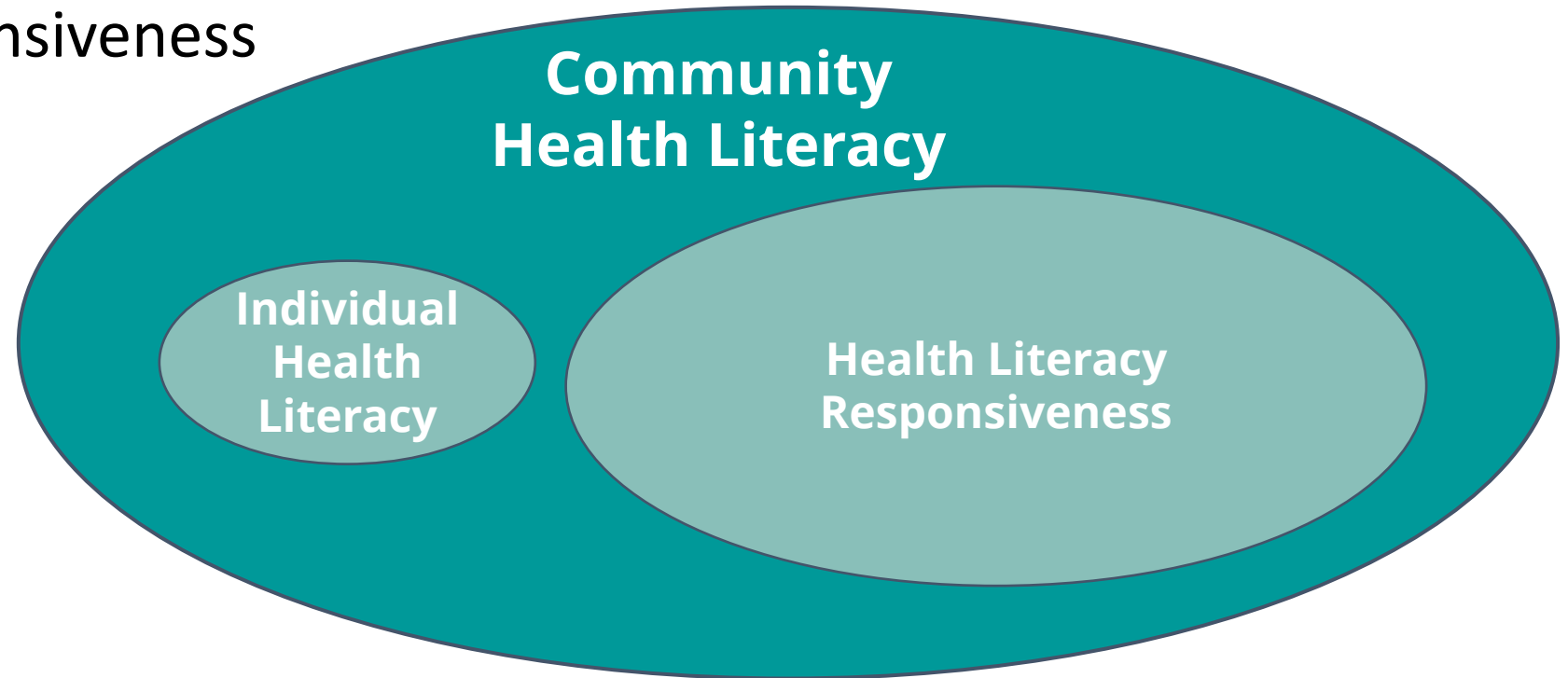
**access, understand, appraise, remember** and **use** information about health and health care, for ...the health and well-being of themselves and those around them.



<https://www.who.int/publications/i/item/9789240055377>

# Health literacy is more than something about individuals

1. Health literacy of an individual
2. Community health literacy
3. Health literacy responsiveness



# Health Literacy is required for:

- People with MASLD:
  - To understand what you (the health workers) say to them
  - To know what is important and not important
  - To use medications properly
  - To become motivated to follow their clinician's advice and change their lifestyle
  - To understand and navigate complex multidisciplinary care
- Clinicians:
  - **To help with all of the above**
  - To communicate effectively
  - To understand different patient's needs and tailor their consultations
  - To design effective interventions and health services improvements

# Tools to help clinicians respond to health literacy needs

- For clinicians:
  - Improve clinician-patient interactions
    - [Teach-back](#)
    - [CHAT \(Conversational Health Literacy Assessment Tool\)](#)
  - Improve written materials
    - [Health Literacy Learning Matrix, WHO 2022 Report \(Section 2.3.6\)](#)
    - [ELF \(Evaluative Linguistic Framework\)](#)
  - Measure and understand health literacy of diverse patients
    - Health Literacy Questionnaire ([HLQ](#)) and [eHLQ](#)
  - Audit – [Health Literate Hospital assessment](#)
  - Enhance or build new interventions and self-management training
    - [Ophelia \(Optimising Health Literacy and Access\) process](#)

# WHO Health Literacy Development for the Prevention and Control of NCDs (2022)

Designated a  
*Global Public Health Good*  
(WHO 2022)



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Overview

Volume 2

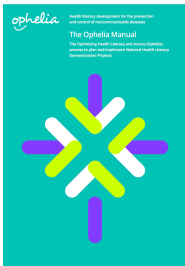
A globally  
relevant  
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Volume 3

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**Ophelia manual for National  
Health Literacy Development  
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### Health literacy development is central to the prevention and control of non-communicable diseases

 Richard H Osborne<sup>1, 2</sup>, Shandell Elmer<sup>1</sup>, Melanie Hawkins<sup>1</sup>, Christina C Cheng<sup>1</sup>, Roy W Batterham<sup>1, 3</sup>, Sónia Dias<sup>4</sup>, Suvajee Good<sup>5</sup>, Maristela G Monteiro<sup>6</sup>, Bente Mikkelsen<sup>7</sup>, Ranjit Gajendra Nadarajah<sup>1</sup>, Guy Fones<sup>8</sup>

Correspondence to Professor Richard H Osborne; [rosborne@qswin.edu.au](mailto:rosborne@qswin.edu.au)

### Abstract

The WHO's report Health literacy development for the prevention and control of non-communicable diseases (NCDs) delivers practical what-to-do how-to-do guidance for health literacy development to build, at scale, contextually-relevant public health actions to reduce inequity and the burden of NCDs on individuals, health systems and economies. The key premise for health literacy development is that people's health awareness and behaviours are linked to lifelong experiences and social practices, which may be multilayered, hidden and beyond their control. Meaningful community engagement, local ownership and locally driven actions are needed to identify health literacy strengths, challenges and preferences to build locally fit-for-purpose and implementable actions. Health literacy development needs to underpin local and national policy, laws and regulations to create enabling environments that reduce community exposures to NCD risk factors. Deficit approaches and siloed health system and policy responses need to be avoided, focusing instead on integrating community-based solutions through co-design, cognisant of people's daily experiences and social practices.







# Volume 3

## Practical actions for health literacy development and responsiveness

### [5 Action Areas]

#### Starting point

1 Prepare for national health literacy development and responsiveness

#### Actively build health literacy through three streams of work

2 Build health literacy responsive health systems

3 Build community health literacy

4 Target priority groups

#### Integrate and scale up

5 Integrate health literacy at the national level through to local levels

# Tools to help clinicians respond to health literacy needs

- For clinicians:
  - Improve clinician-patient interactions
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  - Improve written materials
    - Health Literacy Learning Matrix, WHO 2022 Report (Section 2.3.6)
    - ELF (Evaluative Linguistic Framework)
  - Measure and understand health literacy of diverse patients
    - Health Literacy Questionnaire (HLQ) and eHLQ
  - Audit – Health Literate Hospital assessment
  - Enhance or build new interventions and self-management training
    - Ophelia (Optimising Health Literacy and Access) process

# Five components of health literacy and the role each has in allowing people to effectively engage in healthy behavior

1. Accessing	2. Understanding	3. Appraising	4. Retrieving / remembering	5. Applying
People have different preferred learning styles and need to access different sorts of information at different times.	There are many levels of understanding health information including no understanding to problem solving.	This is more than just believing or judging something to be scientific or if the source is trustworthy, but deciding if it is relevant or even possible to do.	There is a lot of knowledge that we want people to have for use in the future. We need to help them know where it is and get it at the right time.	Whether to apply something is rarely a one-time decision, but a decision that people need to make repeatedly.

# A framework to understand the utility of current tools and to plan development and implementation of health literacy and education programs.

1. Printed materials (pamphlets, posters, written resources)
2. Talk with health staff
3. Media, TV, radio
4. Community conversations (friends, family neighbours, religious / community)
5. ICT, Internet, social media, Apps
6. Arts (songs, plays, paintings, drawings)

**A well-considered mix of interventions is needed for effective disease prevention and control...**

**But how do people actually learn (or absorb) our complex messages?**

# Health literacy tasks































## How people learn

	1. Accessing	2. Understanding	3. Appraising	4. Retrieving / remembering	5. Applying
1. Printed materials (pamphlets, posters, written resources)	<b>Limited value as the primary source for many people.</b> More important for remembering.	<b>Often applied but not helpful for low literate people.</b>	<b>Often applied but not helpful for low literate people.</b>	<b>High impact if</b> materials kept in place that is accessible in the future when the need for the information arises.	<b>High value for practical knowledge on how-to-do self-care tasks</b> (e.g. recipes, exercise sheets).
2. Talk with health staff	Useful if person is able to get to see knowledgeable and communicative professional.	Often best way, especially if combined with other modes and with Teach-back.	Helpful if staff take time to explain.	Can assist with reminders. Health service recall/reminder systems.	Important to assist with problem-solving and to build confidence.
3. Media (radio)	Can be the only source of information. Main source in some rural/remote settings. Relevant to illiterate people and sometimes to minority language groups.	Strong method for many people. Effective if affected people discuss in narrative/interview formats. Declining youth engagement in these media.	Can be very valuable if it allows real people to share and discuss experiences (life stories, talk-back radio).	Most programs/media is one-off, but can provide repeated exposure to key messages to aid memory and to prompt action.	Can assist people to know how to use health services. Practical advice and examples.
4. Community conversations (family, friends, religious community leaders)	<b>Word of mouth among peers and intergenerational transfer of information.</b> Only method for some groups.	<b>Particularly important in working out what it would mean to translate advice into action.</b> Can also leading to misunderstanding (e.g., myths about vaccines causing MS).	<b>Highly and consistently important. The work of deciding what to believe and what is relevant and feasible occurs through discussion with family and friends.</b>	<b>Family and group processes can assist in making actions routine.</b> Family, friends, colleagues often remind and prompt each other.	<b>Friends influence how health actions are applied and sustained. A sources of practical ideas and problem solving from within local contexts</b>
5. ICT, media, social	Useful if person or family have devices. People who are socially isolated or remote can be informed about access options.	Useful if devices accessible. Can be primary source of understanding. Can introduce erroneous information.	Social media can be a substitute community but this can also be a source of misinformation and confusion. Some Apps are good personal planning tools.	Highly useful. Wide use of recall and reminders for NCD management. Can support regular monitoring.	Useful if have access to devices. Can facilitate remote healthcare, accurate use of strategies, monitoring and motivation.
6. Arts (plays, paintings, drawings)	Can overcome language, literacy and other learning barriers.	Some people are visual or narrative etc learners, thus helps catch attention and easier to remember.	Can help make ideas and strategies relevant and feasible.	Embedded community art and music can provide reminders and prompts with positive associations.	Can provide examples of simple practical action undertaken in familiar local contexts.

# Health literacy tasks

Hypothetical observations on the roles of different modalities for the tasks in health knowledge work to impact on disease prevention and control

## How people learn

Consider people with low health literacy	1. Accessing	2. Understanding	3. Appraising	4. Retrieving / remembering	5. Applying
1. Printed materials (pamphlets, posters, written health resources)					
2. Talk with health staff					
3. Media, TV, radio					
4. Community conversations (friends, neighbours, family, colleagues)					
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6. Arts (songs, plays, paintings, drawings)					

# Measuring health literacy

# Health Literacy Questionnaire (HLQ):

Developed using a grounded approach (2013)

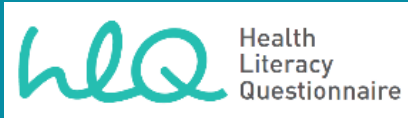
*Thinking about your experiences in trying to look after your health (or that of your family), what does a person need to be able to get and use all of the information they need?*

**Best practice in concept development / questionnaire development**

1. Brainstorming session
2. Sorting and rating of statements
3. Multivariate analysis
4. Interpretation of maps

## Concept mapping

A structured process to capture the knowledge of patients, practitioners, and policy makers



## HLQ: Health Literacy Questionnaire (dimensions)

1.	2.	3.	4.	5.	6.	7.	8.	9.



# Health Literacy Questionnaire (HLQ):

Developed

*Thinking about your experience (that of your family), what are all of the factors that influence health literacy?*

Best practice in concept development / questionnaire development



**hlq** Health Literacy Questionnaire

HLQ

1. Feeling understood and supported by healthcare providers
2. Having sufficient information to manage my health
3. Actively managing my health
4. Social support for health
5. Appraisal of health information
6. Ability to actively engage with healthcare providers
7. Navigating the healthcare system
8. Ability to find good health information
9. Understand health information well enough to know what to do

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8.  
Ability to find good health information

9.  
Understand health information well enough to know what to do


# Psychometric properties of the English, French, Danish, German, Dutch, Norwegian, Urdu, Arabic, Slovakian, Twi HLQ... very strong

## BMC Health Services Research

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Research article | Open Access | Published: 23 November 2020

### Translation, cultural adaptation and psychometric properties of the Ghanaian language (Akan; Asante Twi) version of the Health Literacy Questionnaire

Millicent Addai Boateng , Peter Agyei-Baffour, Sanne Angel & Ulrika Enemark

*BMC Health Services Research* 20, Article number: 1064 (2020) | [Cite this article](#)

196 Accesses | 1 Altmetric | [Metrics](#)

#### Abstract

##### Background

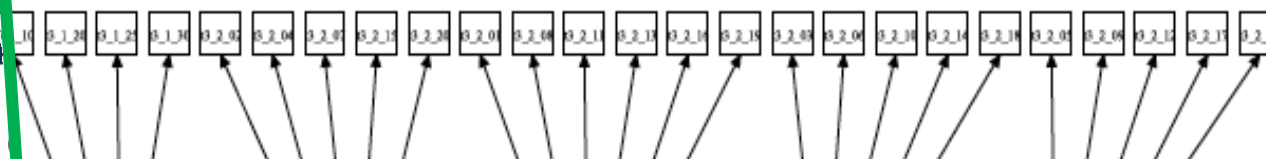
Patients' competencies and resources to manage their own health, which is termed health literacy, is a necessity for better health outcomes. Thus, it is relevant to have a comprehensive health literacy measurement tool suitable for populations of interest. The Health Literacy Questionnaire (HLQ) is a tool useful for health literacy assessment covering nine dimensions/scales of health literacy. The HLQ has been translated and validated in diverse contexts but has so far not been assessed in any country in sub-Saharan Africa. We sought to translate this tool into the most common language used in Ghana and assess its validity.

...uses data collected from a sample of 1,000 persons with chronic conditions. Statistical analyses include descriptive and confirma-

(linear regression, ANOVA) were undertaken. The performance of alternative versions of response options were explored with the Mann-Whitney *U* test and item response theory.

**Results** A highly restrictive nine-factor confirmatory factor analysis showed acceptable fit [ $\chi^2$ /WLSMV = 1684 (df = 866),  $p < 0.0001$ ; CFI = 0.943, TLI = 0.938, RMSEA = 0.051, WRMR = 1.297] and reliability was

Health literacy (HL) has received much attention in the last two decades and is gaining importance for health systems improvement, public health and health policy (Terham et al. 2016; Sørensen et al. 2012). It has the potential to underpin a wide range of healthcare and health promotion programs and improve our capacity to tackle global health challenges, including the achievement of sustainable development goals, including the reduction of disease burden due



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#### Research article

### Validation and measurement invariance of the Arabic Health Literacy Questionnaire

Jehad A. Rababah <sup>a,\*</sup>, Mohammed M. Al-Hammouri <sup>b</sup>, Mohammed Aldalaykeh <sup>b</sup>

<sup>a</sup> Adult Health Nursing Department, Faculty of Nursing, Jordan University of Science and Technology, Irbid, Jordan

<sup>b</sup> Community and Mental Health Department, Faculty of Nursing, Jordan University of Science and Technology, Jordan



#### ARTICLE INFO

**Keywords:**  
Health literacy  
Health Literacy Questionnaire  
Psychometrics  
College students

#### ABSTRACT

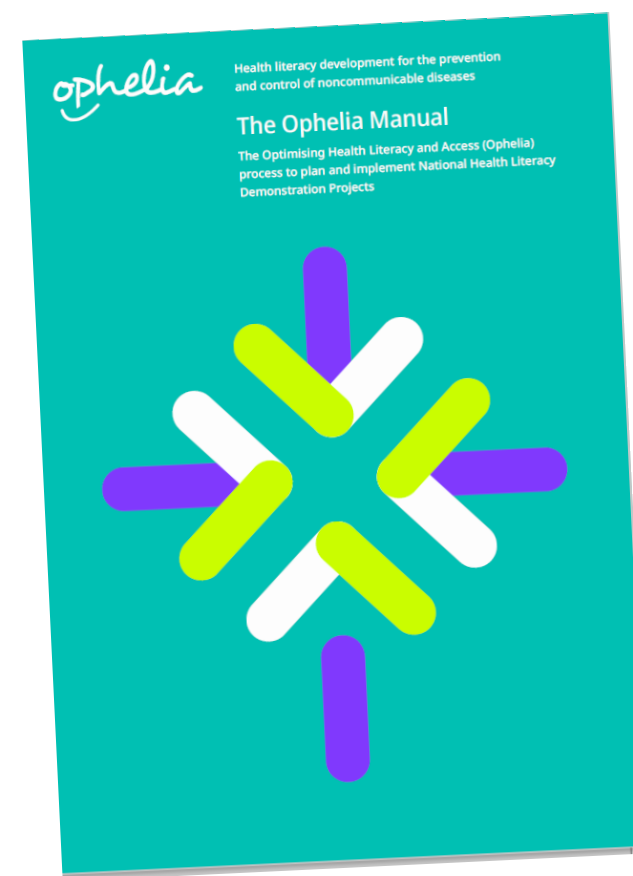
Health literacy plays a key role in empowering individuals and enabling them to make health-related decisions. Despite the advances in health literacy research, there are gaps in the literature that require further inquiry, and establishing comprehensive and valid measurements is one of them. Thus, this research was conducted to examine the psychometric properties of the Arabic Health Literacy Questionnaire (HLQ), including the reliability, validity, and measurement invariances of the nine HLQ scales. A cross-sectional design was used in this study. A sample of university students (N = 1011) was recruited, the mean of age was 21.1 years old (SD = 2.28). The Arabic HLQ and a demographics questionnaire were completed by the participants. Confirmatory factor analyses (CFA) and measurement invariances were performed for each HLQ scale. The values of Cronbach's  $\alpha$  and composite reliability were above .70 for all HLQ scales. The CFA analyses showed that all HLQ scales meet the criteria that were set *a priori*: RMSEA  $\leq .07$ , CFI  $\geq .95$ , and Chisq/df  $< 5$ . In addition, all standardized factor loadings were above .50. Regarding the measurement invariance, the results supported the equal form measurement invariance for all HLQ scales. Measurement invariance of factor loadings and equality of indicator intercepts was partially supported. These results show that the internal consistency, convergence, and factor structure of the HLQ are all supported. The Arabic HLQ is a reliable, valid tool to measure health literacy among Arabic-speaking populations.





## The Ophelia (OPTimising HEalth Literacy and Access) process

- uses *health literacy thinking* to connect people at all levels in a community in co-design, prioritisation and the implementation of locally designed, fit-for-purpose solutions



# Ophelia protocol

Batterham et al. *BMC Public Health* 2014, **14**:694  
<http://www.biomedcentral.com/1471-2458/14/694>



## STUDY PROTOCOL

## Open Access

# The OPTimising HEalth LterAcy (Ophelia) process: study protocol for using health literacy profiling and community engagement to create and implement health reform

Roy W Batterham<sup>1</sup>, Rachele Buchbinder<sup>2,3</sup>, Alison Beauchamp<sup>1,3</sup>, Sarity Dodson<sup>1</sup>, Gerald R Elsworth<sup>1</sup> and Richard H Osborne<sup>1\*</sup>

### Abstract

**Background:** Health literacy is a multi-dimensional concept comprising a range of cognitive, affective, social, and personal skills and attributes. This paper describes the research and development protocol for a large communities-based collaborative project in Victoria, Australia that aims to identify and respond to health literacy issues for people with chronic conditions. The project, called Ophelia (OPTimising HEalth LterAcy) Victoria, is a partnership between two universities, eight service organisations and the Victorian Government. Based on the identified issues, it will develop and pilot health literacy interventions across eight disparate health services to inform the creation of a health literacy response framework to improve health outcomes and reduce health inequalities.

**Methods/Design:** The protocol draws on many inputs including the experience of the partners in previous co-creation and roll-out of large-scale health-promotion initiatives. Three key conceptual models/discourses inform the protocol: intervention mapping; quality improvement collaboratives, and realist synthesis. The protocol is outcomes-oriented and focuses on two key questions: 'What are the health literacy strengths and weaknesses of clients of participating sites?', and 'How do sites interpret and respond to these in order to achieve positive health and equity outcomes for their clients?'. The process has six steps in three main phases. The first phase is a needs assessment that uses the Health Literacy Questionnaire (HLQ), a multi-dimensional measure of health literacy, to identify common health literacy needs among clients. The second phase involves front-line staff and management within each service organisation in co-creating intervention plans to strategically respond to the identified local needs. The third phase will trial the interventions within each site to determine if the site can improve identified limitations to service access and/or health outcomes.

**Discussion:** There have been few attempts to assist agencies to identify, and respond, in a planned way, to the varied health literacy needs of their clients. This project will assess the potential for targeted, locally-developed health literacy interventions to improve access, equity and outcomes.

**Keywords:** Health literacy, Equity, Chronic illness, Access, Implementation, Intervention development, Intervention

<http://www.biomedcentral.com/1471-2458/14/694>



# The three phases and eight steps of the Ophelia process

**Phase 1**  
Identify  
strengths,  
needs and  
action ideas

**Step 1** Project set-up (c0-design with stakeholders)

**Step 2** Data collection using multidimensional Health Literacy  
Questionnaire

**Step 3** Stakeholder and community engagement to generate  
action ideas. Use vignettes (community stories) derived  
from local people's "hearts & minds" (real data)

**Phase 2**  
Select, plan  
and test  
health literacy  
actions

**Step 4** Select health literacy actions (program logic models)

**Step 5** Plan actions (develop implementation and evaluation plans)

**Step 6** Test and refine health literacy actions (quality improvement  
cycles to test processes and materials)

**Phase 3**  
Implement,  
evaluate  
and improve  
health literacy  
actions

**Step 7** Implement and evaluate health literacy actions

**Step 8** Develop an ongoing quality improvement strategy

# The Ophelia “BreastScreen Victoria” Project: Improving awareness and participation among Aboriginal, Arabic-speaking and Italian-speaking women



**Health Systems Improvement Unit**



WHO Collaborating Centre  
for Health Literacy



# Overview

## Ophelia (Optimising Health Literacy and Access) in breast cancer screening Victoria

- **Aim**
  - increase screening among under-screened groups:
    - Arabic, Italian, Aboriginal, and Australian women
- The 9-dimension HLQ used to provide detailed information on the mechanisms by which people can and can't engage with health information and services
- These data were used for co-design with women and frontline health staff



Group	HLQ Survey	Interviews	Workshop participation
Aboriginal	52	9	17
Arabic	71	3	30
Italian	173	4	12
Control	133	5	23
NW clinic staff		-	21
<b>TOTAL</b>	<b>429</b>	<b>21</b>	<b>103</b>

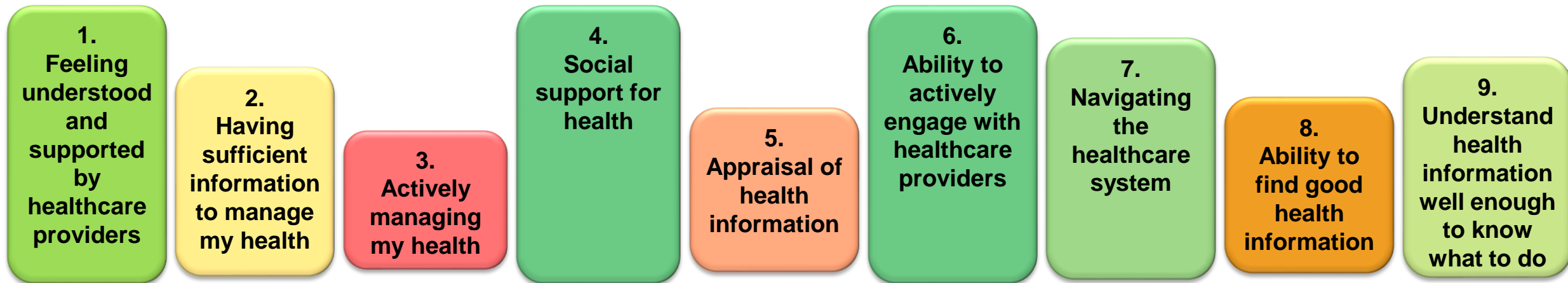
**Total number of people consulted: 553**



# Every person will be different in what they have and what they need



## HLQ: Health Literacy Questionnaire (dimensions)



# Cluster analysis of HLQ – to generate evidence-based vignettes (with qualitative interviews)

Row Labels	N people in cluster	Mean age	% Age >=61	1. Healthcare provider support	2. Has sufficient	3. Actively managing	4. Social support	5. Appraisal health information	6. Active engagement HCP	9. Understanding health information
A			%	3.75			73	3.87	5.0	4.87
B			%	3.71			82	3.72	3.9	3.15
C			%	3.71			31	3.03	4.2	3.97
D			%	2.88		2.75	2.65	2.73	3.9	3.69
E			%	2.82		2.46	2.89	2.46	2.8	2.46

1. Do you recognise this person in your community?

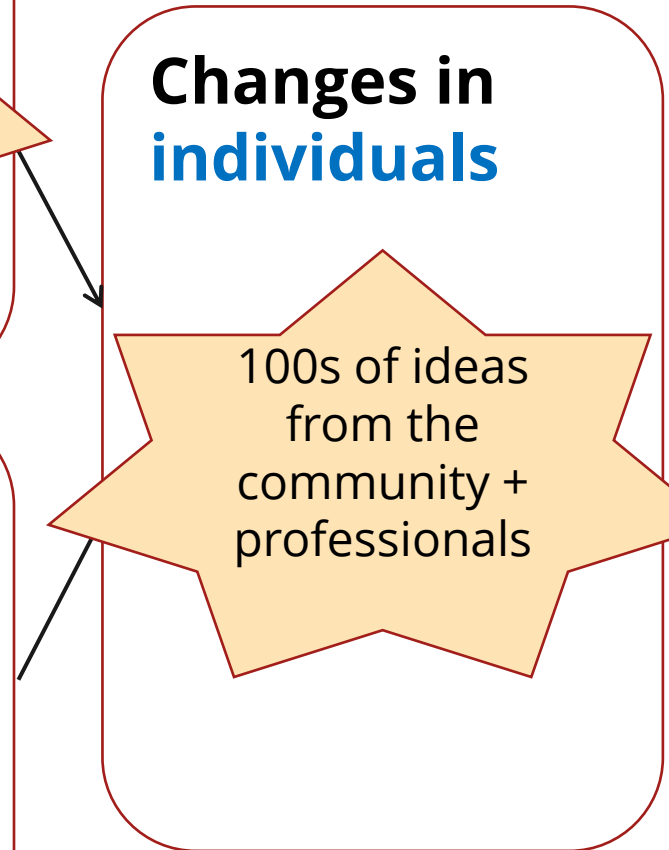
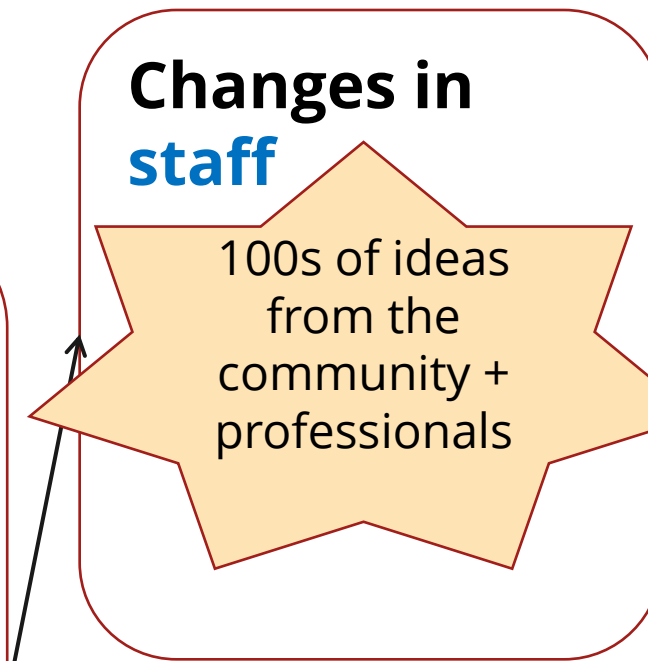
2. What strategies could be used to help this individual?

3. "If there were lots of people like this... What could services and community organisations do to improve outcomes for these people?"

Basira is aged 55, lives in Broadmeadows with her husband and two children who are in their early 20s. Basira and her husband migrated to Australia 25 years ago and became citizens soon after the migration. Basira completed secondary education in her home country and works part-time in a local cake shop. Basira firmly believes her family comes first, and feels she is lucky to be so healthy herself. Since the menopause she does sometimes feel quite anxious but thinks this is normal. She also has asthma and her GP has put her on an action plan but she often forgets to take her puffer with her when she leaves the house (Scale 3). Basira does have a GP who she will see when she gets sick (Scale 1, 6) but otherwise she doesn't use any other health services (Scale 7) and while she would like more information (Scale 2), and find it OK (Scales 8) she finds hard work out if it is useful (Scale 5).

Basira has never had a breast screen, although her GP mentioned she should go when she turned 50. She was confused when her doctor said that breast screen can prevent you from dying as she knows that it is Allah's will when you die. Some of her friends (Scale 4) told her the staff are friendly, but that the procedure itself is quite uncomfortable and her friend didn't expect that her breasts would need to be handled quite so much. Basira thinks that she doesn't have the time anyway, there are always lots of other priorities (Scale 3).

# Integrated Ophelia framework for Health Literacy interventions



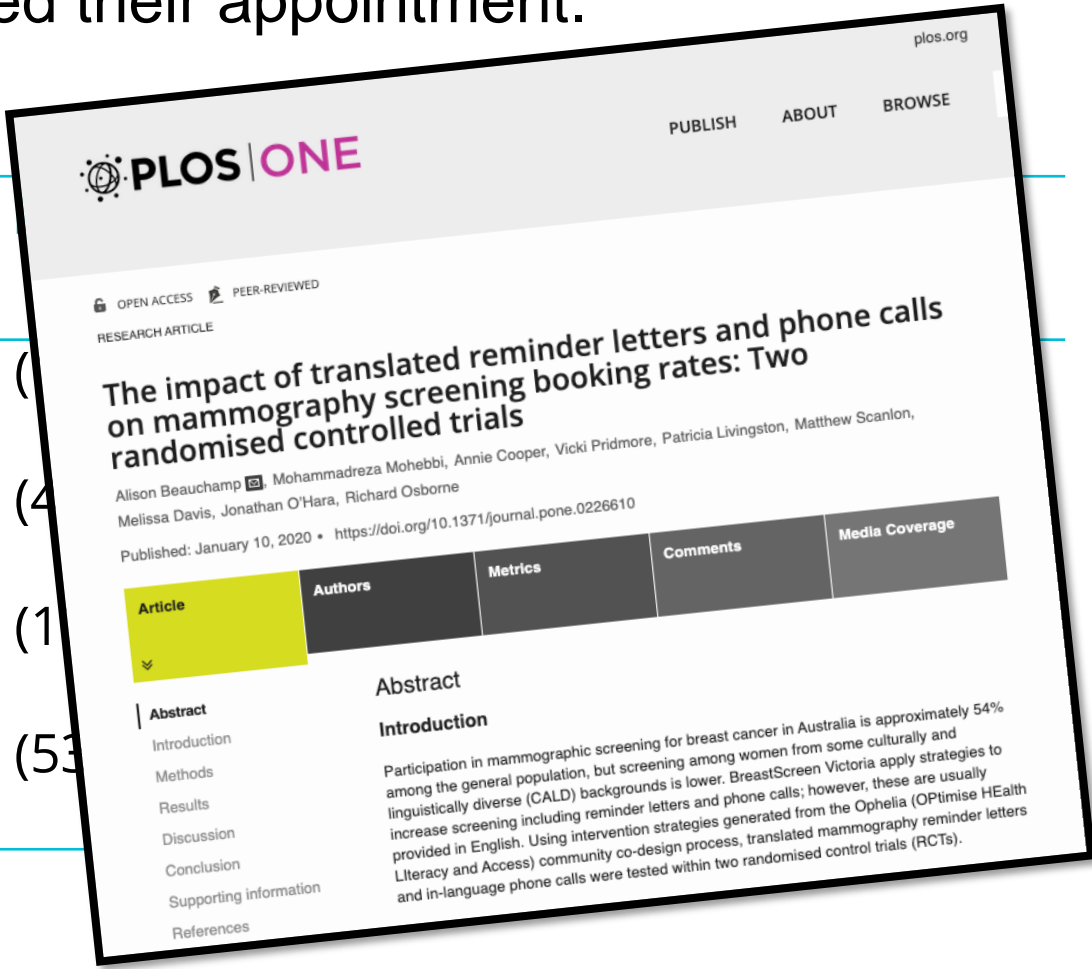
# Interventions to improve screening

- 244 ideas were generated, and referenced against the published evidence
  - Many novel ideas
- Prioritised Action Areas for Testing
  1. Outbound calls in their language
  2. *Sending invitations in language* (didn't work)
  3. Peer education program
  4. Information booths in pharmacies
  5. Staff training
  6. Media advertisements & animation
  7. Shawls designed by Aboriginal women

# Trial 1: Outbound calls in language

- Women who received a call in language were **x10 more likely to book** than women who didn't receive a call
- The most women who booked actually attended their appointment.

Group	Trial arm	Booked	Not
Arabic	In language call	55% (21)	45% (10)
	No call	5% (2)	95% (4)
Italian	In language call	71% (41)	29% (16)
	No call	7% (4)	93% (53)



# Trial 7: Screening shawls for Aboriginal women (Beautiful Shawls project)

## Background

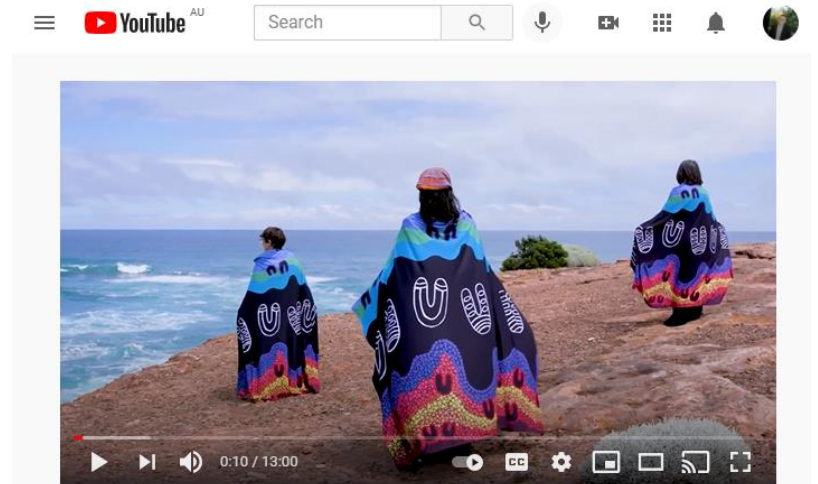
- Idea seen in New Zealand

## Trial

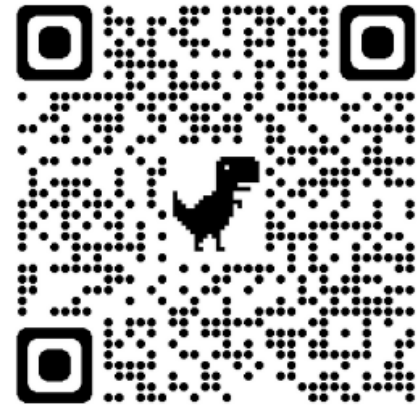
- Customised shawls with Aboriginal design
- Partnering with Aboriginal and Torres Strait Islander peak bodies
- Group booking model
- Clinic staff training
- Trial successful





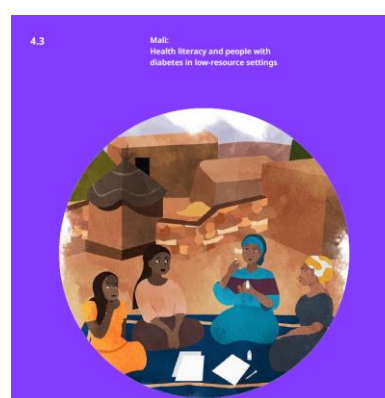
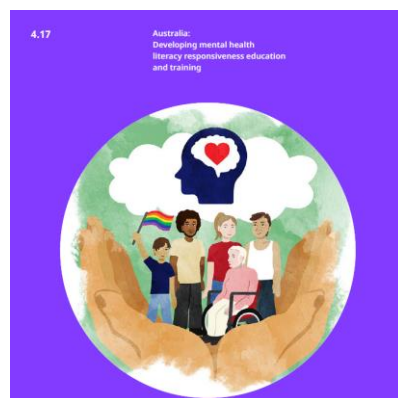
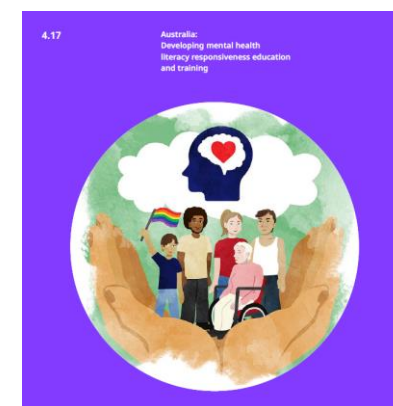
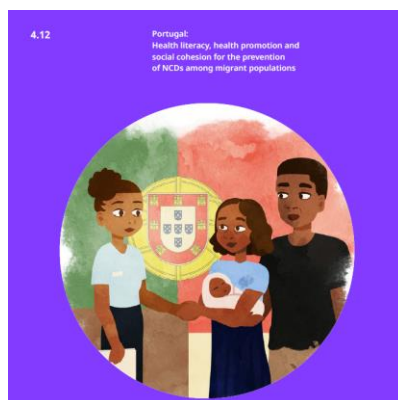


The Beautiful Shawl Project documentary



# Volume 4

## WHO National health Literacy Development Projects (NHLDPs) – 16 case studies, including:







## Impacts of a health literacy-informed intervention in people with chronic obstructive pulmonary disease (COPD) on hospitalization, health literacy, self-management, quality of life, and health costs – A randomized controlled trial

Christine R. Borge<sup>a,b,\*</sup>, Marie H. Larsen<sup>a,c</sup>, Richard H. Osborne<sup>d</sup>, Eline Aas<sup>e,f</sup>, Ingrid Tryland Kolle<sup>b</sup>, Rikke Reinertsen<sup>b</sup>, Martha P. Lein<sup>b</sup>, Maria Thörn<sup>b</sup>, Ragnhild Mørch Lind<sup>b</sup>, Marie Groth<sup>b</sup>, Oda Strand<sup>b</sup>, Marit Helen Andersen<sup>a,g</sup>, Torbjørn Moum<sup>h</sup>, Eivind Engebretsen<sup>a</sup>, Astrid K. Wahl<sup>a</sup>

<sup>a</sup> Department of Interdisciplinary Health Sciences, University of Oslo, Norway

<sup>b</sup> Lovisenberg Diaconal Hospital, Oslo, Norway

<sup>c</sup> Lovisenberg Diaconal University College, Oslo, Norway

<sup>d</sup> Centre of Global Health and Equity, School of Health Sciences, Swinburne University of Technology, Hawthorn, Australia

<sup>e</sup> Department of Health Management and Health Economics, University of Oslo, Norway

<sup>f</sup> Division of Health Services, Norwegian Institute of Public Health, Oslo, Norway

<sup>g</sup> Department of Transplantation Medicine, Oslo University Hospital, Rikshospitalet, Oslo, Norway

<sup>h</sup> Department of Behavioral Sciences in Medicine, University of Oslo, Norway

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### ABSTRACT

**Objective:** To compare the effect of motivational interviewing (MI) and tailored health literacy (HL) follow-up with usual care on hospitalization, costs, HL, self-management, Quality of life (QOL), and psychological stress in people with chronic obstructive pulmonary disease (COPD).

**Methods:** A RCT was undertaken in Norway between March 2018–December 2020 (n = 127). The control group (CG, n = 63) received usual care. The intervention group (IG, n = 64) received tailored HL follow-up from MI-trained COPD nurses with home visits for eight weeks and phone calls for four months after hospitalization. Primary outcomes were hospitalization at eight weeks, six months, and one year from baseline. The trial was registered with ClinicalTrials.gov (NCT03216603) and analysed per protocol.

**Results:** Compared with the IG, the CG had 2.8 higher odds (95% CI [1.3 to 5.8]) of hospitalization and higher hospital health costs (MD=€ -6230, 95% CI [-6510 to -5951]) and lower QALYs (MD=0.1, 95% CI [0.10 to 0.11]) that times an ICER = -62,300. The IG reported higher QOL, self-management, and HL (p < 0.02, p < 0.02, p < 0.02).

Norway:

Among people with COPD

3x reduction in hospitalisation



# Volume 4

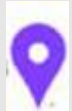


JACARDI

Joint action  
cardiovascular diseases  
and diabetes



## WHO Health Literacy Development projects (and other Ophelia projects)



Initial



Additional



New / other

# Thank you



[rosborne@swin.edu.au](mailto:rosborne@swin.edu.au)



<https://www.linkedin.com/in/ric-hard-osborne-a7639a20/>

