



# Global Health Literacy Summit

## Abstract Book



**Oral Presentation: Session Oral 1 Health literacy in Childhood/Adolescence and Sexual Health  
Oct. 4th (Mon.) 13:30-15:00**

Topic: Health literacy and patient safety  
Abstract No: 13282

**Health literacy education for taboo topics for parents of teens**

Jessica Daly<sup>\*1</sup>

*<sup>1</sup>The Clifford E. Graese Community Health Library/ Orlando Health/ United States*

**Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

There are "taboo topics" for the parent of an adolescent or teenager and when never addressed often end in damaging both the mental and physical health of the patient. Finding a way to bring awareness to these healthcare topics while also educating parents/guardians was the challenge. Learn the story of a consumer health librarian who partners with a local pediatrician meet this problem head on by using virtual health literacy education. A webinar series entitled "Not My Child" was researched, planned, and created to address the topics of teen pornography addiction, dangers of cell phones, and also vaping. The objectives of the webinar series was for parents/guardians to discover the dangers associated with each topic, to become aware of the statistics associated with each topic, to learn how to discuss these topics with their child or teen, and what to do when or if they discover there is an addiction or problem associated with any of the topics. The librarian's role was to gather credible and timely health information resources created with the patient or family caregiver in mind while the pediatrician's task was to assist in creating an engaging and thought provoking presentation, while using her credibility as an experienced physician and mother of teenagers to gain buy in from not only parents/guardians but also fellow pediatricians. When the series of three thirty-minute webinars were completed, they were posted on the library's website and a flyer was created to post in all pediatric exam rooms and waiting rooms. Parents can scan a code on the poster taking them directly to the series. The flyer is also shared digitally through social media platforms. Bringing health literacy to the patient at their point of need is critical and this method provided pediatric parents/guardians the power to do so at their convenience. The librarian and pediatrician continue to receive special thanks from parents and pediatricians alike explaining how these videos have helped with conversations related to these topics and helped to gain assistance for their child.

*Keywords: Adolescent; Teenager; Addiction; Pediatric; Virtual*



Topic: Health literacy and sexual & reproductive health  
Abstract No: 13406

## Health literacy as a mediator of the relationship between socioeconomic position and preexposure prophylaxis uptake among MSM living in France

Yousseoufa OUSSEINE<sup>1</sup> ; Cécile Allaire<sup>1</sup> ; Virginie Ringa<sup>2</sup> ; Nathalie Lydié<sup>1</sup> ; Annie Velter<sup>1</sup>

<sup>1</sup>Prevention-Health Promotion Department/ Santé publique France/ France, <sup>2</sup>Public health/ CESP Centre for research in Epidemiology and Population Health, U1018, Primary care and Prevention, University Paris-Saclay, University Paris-Sud, UVSQ, Ined,/ France

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

In recent decades, several research studies have mentioned a potential mediating effect of health literacy (HL) on the relationship between social position and prevention behaviors. However, no studies have actually investigated this hypothesis on HIV prevention behaviors. The aim of this study is to investigate the mediator effect of HL on relationship between socioeconomic position (SEP) and preexposure prophylaxis (PrEP) uptake among men who have sex with men (MSM).

#### **Method**

This study is based on Rapport au sexe 2019 (ERAS 2019) survey. ERAS 2019 is an anonymous, self-administered online cross-sectional survey based in France on voluntary and specifically targeted to MSM. Education level and perceived financial situation were used as measures of SEP, while HL was assessed with the scale of HLQ “ability to actively engage with healthcare providers”. We performed mediation analysis with a model-based causal moderated mediation with mediation package in R software. Analysis were adjusted for age, place of residence, marital status and social support.

#### **Results**

Our study sample comprised 22,381 MSM including 17,554 HIV seronegative and 4,827 did not know their HIV status. The median [IQR] age was 30 [23-43] years. The majority of MSM had a level of education higher than the high school diploma (68.8%), had an adequate HL level (70.5%), and perceived their financial situation as comfortable (57.5%). PrEP uptake was very low (5.8%). PrEP users were more educated and perceived their financial situation as comfortable.

Mediation analyses showed that HL had weakly mediate the relationship between education level and PrEP uptake (proportion mediate average: 2%, 95%CI: 1%-5% p<0.001). However, the mediation effect of HL on the relationship between perceived financial situation and PrEP uptake was significant (proportion mediate average: 10%, 95%CI: 7%-16% p<0.001).

#### **Conclusion**

Patients' ability to engage with health care providers may offset the effect of poorer socioeconomic status on the uptake of PrEP as a prevention method. Raising awareness of PrEP among health professionals is a lever for reducing inequalities in access to this preventive measure. These results argue for the generalization of PrEP prescription by all health professionals, including general practitioners who are closer to the target population.

*Keywords: Preexposure prophylaxis; Health literacy; Men who have sex with men; HIV prevention*

Topic: Health literacy and sexual & reproductive health  
Abstract No: 13350

## Women's participation in decision-making in maternity care: a qualitative exploration of clients' health literacy skills and needs for support

Laxsini Murugesu<sup>\*1</sup> ; Olga C. Damman<sup>1</sup> ; Marloes E. Derksen<sup>1</sup> ; Daniëlle R.M. Timmermans<sup>1</sup> ; Ank De Jonge<sup>2</sup> ; Ellen M.A. Smets<sup>3</sup> ; Mirjam P. Fransen<sup>1</sup>

<sup>1</sup>Department of Public and Occupational health/ Amsterdam UMC/ Netherlands, <sup>2</sup>Department of Midwifery Science/ Amsterdam UMC/ Netherlands, <sup>3</sup>Department of Medical Psychology/ Amsterdam UMC/ Netherlands

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Shared decision-making requires adequate functional health literacy (HL) skills from clients to understand information, as well as interactive and critical HL skills to obtain, appraise and apply information about available options. This study aimed to explore women's HL skills and needs for support regarding shared decision-making in maternity care. In-depth interviews were held among women in Dutch maternity care who scored low ( $n = 10$ ) and high ( $n = 13$ ) on basic health literacy screening test(s). HL skills and perceived needs for support were identified through thematic analysis. Women appeared to be highly engaged in the decision-making process. They mentioned searching and selecting general information about pregnancy and labor, constructing their preferences based on their own pre-existing knowledge and experiences and by discussions with partners and significant others. However, women with low basic skills and primigravida perceived difficulties in finding reliable information, understanding probabilistic information, constructing preferences based on benefit/harm information and preparing for consultations. Women also emphasized dealing with uncertainties, changing circumstances of pregnancy and labor, and emotions. Maternity care professionals could further support women in participating in important decisions during pregnancy and labor. Guiding them towards reliable and easy to understand information is an important first step. Furthermore, preparing women explicitly for consultations (e.g., agenda setting), supporting them in understanding and discussing benefit/harm information seem important to facilitate participation in decision-making. To support women in coping with uncertainty and changing circumstances, a narrative can be adopted that emphasizes the ability to change preferences over time in advance of labor.

*Keywords: decision-making; client participation; maternity care; health literacy; needs assessment*

Topic: Health literacy in adolescence  
Abstract No: 13072

## The relationship between health literacy and health-related quality of life in Beijing adolescents

Shuaijun (Jun) Guo<sup>1 2 3</sup>; Xiaoming Yu<sup>4</sup>; Elise Davis<sup>2</sup>; Rebecca Armstrong<sup>2</sup>; Lucio Naccarella<sup>2</sup>

<sup>1</sup>Centre for Community Child Health/ Murdoch Children's Research Institute/ Australia, <sup>2</sup>Melbourne School of Population and Global Health/ The University of Melbourne/ Australia, <sup>3</sup>Department of Pediatrics/ The University of Melbourne/ Australia,

<sup>4</sup>Institute of Child and Adolescent Health, School of Public Health/ Peking University/ China (中国)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Health literacy, defined as the ability to engage with health information and services in everyday life, is an essential part of achieving the Sustainable Development Goal. While the relationship health literacy and health-related quality of life is well-established in adults particularly those with chronic diseases, little is known in adolescents, a relatively healthy population.

**Aims:** The present study aims to investigate how health literacy is related to its antecedents and health-related quality of life in Beijing adolescents, using Manganello's health literacy framework.

**Methods:** A cross-sectional study was conducted with 650 students in Years 7 to 9 from four secondary schools in Beijing. Based on Manganello's health literacy framework, a self-administered questionnaire was designed to collect information on health literacy, its antecedents (self-efficacy, social support, school environment and community environment), and health-related quality of life. Health literacy was measured by the 8-item Health Literacy Assessment Tool (score range: 0-37) and health-related quality of life was measured by the 10-item KIDSCREEN-10 (score range: 10-50). Path analysis was used to investigate the mediating role of health literacy in predicting health-related quality of life.

**Results:** Overall, students scored  $26.37 \pm 5.89$  and  $37.49 \pm 5.78$  for health literacy and health-related quality of life, respectively. There was no mediating effect of health literacy on the relationship between its antecedents and health-related quality of life. Instead, health literacy and health-related quality of life were independent health outcomes. Students' health literacy was determined by self-efficacy ( $r=0.11$ ,  $p=0.007$ ), social support ( $r=0.18$ ,  $p<0.001$ ) and school environment ( $r=0.27$ ,  $p<0.001$ ), whereas health-related quality of life was predicted by social support ( $r=0.45$ ,  $p<0.001$ ), school environment ( $r=0.23$ ,  $p<0.001$ ) and community environment ( $r=0.12$ ,  $p<0.001$ ).

**Conclusion:** This study suggests that health literacy is not directly related to health-related quality of life in a healthy population of adolescents, but they have common determinants such as social support and school environment. A holistic approach is needed to increase personal self-efficacy, promote social support, and create positive school and community environments, in order to achieve optimal health outcomes for adolescents.

**Keywords:** Health literacy; health-related quality of life; adolescents; China; path analysis



Topic: Health literacy in schools and educational settings  
Abstract No: 13437

## The network of Health Promoting Schools of Aragon (Spain) investment in health literacy

Javier Gállego-Diéquez<sup>1</sup> ; Elisa Ferrer-Gracia<sup>1</sup> ; Mercedes Febrel-Bordejé<sup>1</sup> ; Pilar Macipe-Costa<sup>1</sup> ; Manuel Bueno-Franco<sup>1</sup> ; Pilar Muñoz-Nadal<sup>1</sup> ; Samuel Casado-García<sup>1</sup> ; Cristina Navarro-Gistau<sup>1</sup>  
<sup>1</sup>Regional Government of Aragon (Spain)/ Department of Health/ Spain (España)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### Introduction

The network was created in 2008 in the Region of Aragon (Spain) by the Department of Education and the Department of Health of the Government of the Autonomous Community of Aragon and is managed by the Joint Health and Education Commission.

A healthy school promotes health literacy and provides experiences relevant to health. The purpose of a healthy school is to empower students with values, skills and motivations to promote health and wellbeing, fostering the development of basic competences that allow them to enjoy health as a way of living an autonomous, solidarity-based and fulfilling life.

#### Network approach

The Network voluntarily integrates schools providing education (3-16 years) with a three-year commitment (renewable) to promote the health and well-being of the school community within their educational and curricular project. Schools applying for integration have to complete a situation analysis and an accreditation questionnaire, which assesses four aspects

- 1) Organisation as a health-promoting school;
- 2) Actions on health determinants: Nutrition; Physical activity; Emotional health and coexistence; Consumption of tobacco, alcohol and other drugs/ Consumption of screens and internet;
- 3) School programming; and 4) Health education programmes.

#### Outcomes

There are currently 191 educational centres accredited as health promoting schools in the network (34.9% of the total in Aragon).

Accredited centers as Health Promoting Schools perform process improvement, innovation and mainstreaming of the integration of health dimensions in the educational project. Health Promoting Schools valued as high or very high involvement of teachers (96.1%), collaboration of families (73.4%), integration into educational programming (93.7%) and action tutorial (93.8%), and the development of life competencies (88.3%).

The 2021 progress report of the health promoting school teams assesses the achievement of the proposed objectives as high or very high in the following areas: emotional health (94%), physical activity (93%), environmental health (90%), nutrition (89%) and consumption of tobacco, alcohol and other drugs and consumption of screens and internet (61%).

#### Conclusions

The network encourages the exchange of experiences and the recognition of models of good practice. It also supports the mainstreaming of health literacy. Promotor schools have had good capacities to face the challenges of the pandemic.

*Keywords: health promoting school; health literacy; health promotion;*

Topic: Others  
Abstract No: 13351

## **Tool for the evidence-based planning of interventions to prevent obesity in childhood and youth**

Maike Schröder<sup>1</sup> ; Romy Berner<sup>2</sup> ; Birgit Babitsch<sup>2</sup> ; Holger Hassel<sup>\*1</sup>

<sup>1</sup>Institute for Applied Health Sciences/ Coburg University of Applied Sciences and Arts, Coburg/ Germany (Deutschland),

<sup>2</sup>Department New Public Health/ University Osnabrück/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

The systematic and theory-based development of interventions is complex and requires time as well as personnel resources. With WEPI we aim to develop a web-based planning tool for municipalities and schools, that follows the Intervention Mapping approach (IMA) but also supports the planning process of obesity prevention time saving and user oriented. The project is supported by the Federal Ministry of Health, Germany.

#### **Methods**

From April to October 2019 a first systematic literature review (SLR) was conducted using the databases Pubmed, LIVIVO and Cochrane. The purpose of this SLR was to identify existing tools for intervention planning as a basis for WEPI. To meet the requirements of the IMA, two further SLR were conducted in the same databases on evidence-based determinants of obesity development and on proven obesity intervention methods in 2020.

#### **Results**

The first SLR identified a total of 23 planning tools. Of these, four comprehensive and evidence-based ones were chosen: "Intervention Mapping", "Getting To Outcomes", "Six-Step Planning Model" and "Six Steps for Quality Intervention Development". Intervention Mapping was identified as the most complex and frequently used tool for intervention planning. In combination with the other three planning tools it was simplified for WEPI to provide a user-friendly and evidence-based planning process. The second SLR revealed 806 hits. Determinants of obesity development were identified in 8 guidelines and 37 reviews. They were adopted in form of 15 problem areas which support the WEPI user to conduct an evidence-based problem analysis. The third SLR included 25 obesity prevention studies which were developed by using the IMA. Based on this, 192 evaluated methods were identified and integrated as good practice examples into the planning tool.

#### **Conclusion**

WEPI provides a comprehensive roadmap to the planning process, guiding the user step by step. Acceptance and usability of the WEPI planning tool will be evaluated with municipalities and schools in the trial phase from March to November 2020.

*Keywords: Intervention Mapping; planning tool; obesity prevention; municipalities; schools*



## Oral Presentation: Session Oral 2, Oct. 4th (Mon.) 13:30-15:00

Topic: Health literacy in professional training and performance (incl Medical / Health Professions Schools, Occupational therapy etc.)

Abstract No: 13247

### **Health literacy among Moroccan nursing students(Exploratory study for cognitive and linguistic validation of the Questionnaire European Health Literacy Survey)**

Karima Boumendil<sup>\*1</sup> ; SALOUA ABOUCHADI<sup>\*1</sup>

<sup>1</sup>*Health program management/ National School of Public Health/ Morocco*

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Health literacy (HL) is a powerful predictor of health and a key concept for interventions to improve the health of individuals and populations, particularly in the area of interaction between health care providers and patients. However, in Morocco data on this concept are not available. Our study aims to test and validate a measurement tool adapted to our context and to determine the health literacy level among nursing student's future health professionals.

**Methods:** A descriptive cross-sectional study was conducted in 2019 at the Higher Institute of Health Professions and Techniques of Health at Rabat Annex-Kenitra. The study population consisted of 208 undergraduate nursing students. The self-reported data were collected through the European questionnaire in full version (HLS-EU-Q47), after two focus groups to validate its translation into Moroccan dialect. Associations between health literacy and socio-demographic characteristics were demonstrated at a significance level of 0.05.

**Results:** The questionnaire was shown to have high internal consistency (Cronbach's alpha>0.90). The majority of respondents (73%) had a limited LS. The health literacy index was significantly associated with the level of education, the industry, the mother's education level and the occurrence of a chronic illness. The length of the questionnaire and the ambiguity of some items were raised by the respondents.

**Conclusion:** HLS-EU-Q47 was a comprehensive and satisfactory survey tool health literacy for use in the Moroccan context. Nevertheless, a shorter version should be tested. On the basis of the results obtained, the need for the integration of the concept of health literacy into the training curriculum for students, future health professionals, is prescribed.

*Keywords: Health literacy; HLS EU Q47; Nursing students, Morocco*



Topic: Health literacy in professional training and performance (incl Medical / Health Professions Schools, Occupational therapy etc.)

Abstract No: 13362

## Development and evaluation of a health literacy training program for allied health professionals: A pre-post study assessing impact and implementation outcomes

Danielle Muscat<sup>1</sup> ; Dragana Ceprnja<sup>2</sup> ; Kim Hobbs<sup>2</sup> ; Jodi-Anne Gibson<sup>2</sup> ; Caron Blumenthal<sup>2</sup> ; Rula Milad<sup>2</sup> ; Timothea Lau<sup>3</sup> ; Chris Burns<sup>2</sup> ; Victoria Flood<sup>3</sup>

<sup>1</sup>Faculty of Medicine and Health, School of Public Health, Sydney Health Literacy Lab/ University of Sydney / Australia, <sup>2</sup>Allied Health / Western Sydney Local Health District/ Australia, <sup>3</sup>Faculty of Medicine and Health / University of Sydney / Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Issue addressed;** We developed and evaluated a health literacy training program for allied health professionals, and explored the feasibility of a train-the-trainer model to support dissemination.

**Methods;** The program combined didactic and experiential teaching methods and behavior change techniques, with a focus on teachback and developing easy-to-understand written materials. Outcomes included participant reactions, confidence (range:6-30), behavioural intentions (range:6-42), and dissemination of training content. Implementation outcomes were evaluated using the Normalization MeASURE Development (NoMAD) tool, assessing the constructs of coherence (range:4-20), cognitive participation (range:4-20), collective action (range:7-35) and reflexive monitoring (range:5-25).

**Results;** Of the 29 allied health professionals who participated, 90% rated the program as 'excellent'/'very good', and 97% said the information was 'extremely'/'very' helpful for their everyday practice. We observed increases in confidence (mean difference [MD]=6.3, standard deviation [SD]=2.7,  $t_{25} = 11.87$ ,  $p < 0.001$ ) and intentions (MD=3.6, SD=8.1,  $t_{23} = 2.2$ ,  $p = 0.04$ ) related to health literacy practices after 6 weeks. Improved confidence was retained over 6 months (MD=7.1, SD=5.2,  $t_{18} = 5.96$ ,  $p < 0.001$ ).

After 6 months, 95% of participants (n=19) reported using teachback and 50% (n=10) reported having used a readability formula. Eight-five percent of participants (17/20) had trained others in health literacy, reaching n=201 allied health professionals and students. NoMAD scores were highest in relation to cognitive participation (/20) (M=18.2, SD=2.1) and lowest in relation to collective action (/35) (M=25.4, SD=3.0).

**Conclusions;** A train-the-trainer model appears to be a feasible method to disseminate health literacy training, but additional work may be needed to improve the collective work done to enable health literacy practices in real-world clinical contexts. Staff training is particularly important in highly-diverse areas where patients are disproportionately affected by low health literacy.

**Keywords:** Professional training; Allied health; Train-the-trainer; Teachback; Readability

Topic: Health literacy in professional training and performance (incl Medical / Health Professions Schools, Occupational therapy etc.)

Abstract No: 13447

## **Health literacy knowledge and level for obstetrics and gynecology interns**

Julie LAURENCE<sup>1</sup> ; Elie Azria<sup>1</sup> ; Virginie Ringa<sup>2</sup>  
<sup>1</sup>Paris/ University of paris/ France, <sup>2</sup>Paris/ INSERM/ France

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Introduction: Health literacy (HL) is important in public health and healthcare, but is, to our knowledge, very unknown in France. HL is the ability to obtain, process, and understand basic health information and services to make appropriate health decisions. Studies have proven that training in HL for medical students improve their capacity of communication with patients. This study aimed to evaluate the knowledge and level in HL for obstetrics and gynaecology (OG) interns in France. Methods: A national online survey was conducted among the 1066 French OG interns from February to June of 2020. It was exploring the concept of HL, and their communication techniques. The last part of survey was testing HL status with Health Literacy Questionnaire (HLQ). Results: The response rate was 21.5% (N=230). Only 6.5% of OG interns were aware of the concept of HL. They seemed also aware of the need for improvement of their communication techniques. 67.4% evaluate themselves as capable of identifying a patient with a low HL level. About HLQ, 96.5% scored a sufficient or high level in HL. The lowest score was for scale 3-Actively managing my health. Conclusion: Even if very few interns have heard of the concept of HL, OG interns have a high level in HL. They feel concerned with low HL related problems, and with the need to enhance communication techniques for their patients.

*Keywords: health literacy ; obstetrics and gyneacology ; interns ;*



Topic: Health literacy in professional training and performance (incl Medical / Health Professions Schools, Occupational therapy etc.)

Abstract No: 13419

## The demand for health literacy as a professional competency: a review of job adverts

Laryn McLernon<sup>\*1</sup> ; Kristine Sorensen<sup>\*2 1</sup>

<sup>1</sup>Department of Linguistics/ University of Vienna/ Austria (Österreich), <sup>2</sup>Founder/ Global Health Literacy Academy/ Denmark (Danmark)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

An exponential growth of health literacy research reveals that the awareness of health literacy as an important determinant of health is increasing. The uptake of health literacy as a professional skill in various disciplines is less explored. This study examined the development of health literacy as a professional competency by reviewing the demand and descriptions in job adverts.

The review was conducted in Indeed and Careerjet during March to May 2015 and 2020. Duplicates were removed and adverts were excluded if health literacy was not mentioned in the text. The content of each advert was assessed according to organization, organization type, country, job title, job description, and qualification needed.

In 2015, the study yielded 548 results of which 87 were excluded and 189 duplicates were removed resulting in 272 adverts included in the database. In 2020, the review revealed 722 results whereof 152 were excluded and 354 were duplicates resulting in 216 to be included. The majority of the adverts were from the United States although several were produced in Australia and Canada. While nursing and public health were the main disciplines represented in 2015; there were multiple disciplines demanding for health literacy as a professional skill in 2020. The disciplines included academia, dentistry, healthcare management, health insurance, interpreter, journalism and health communication, librarian, marketing and sales, medical assistant, medical doctor, nursing, nutritionist and dieticians, pharmacy, psychiatry, psychology, public health, publisher, social work, volunteer, and web design. The discourse of the adverts could be linked to national policies related to health literacy in the given countries.

The study highlights the demand for health literacy as a cross-disciplinary and cross-sectoral, professional competency. Health literacy of professionals plays an important role for communication and quality and safety of health services. Notably, health literacy should be an integral part of higher education and continuous professional development programmes to meet the increased demand.

Topic: Health literacy in professional training and performance (incl Medical / Health Professions Schools, Occupational therapy etc.)

Abstract No: 13057

## Health literacy knowledge and practice of registered nurses working in B.P. Koirala Institute of Health Sciences, Dharan, Nepal

Shristi Subedi<sup>1</sup> ; Paras Pokhrel<sup>1</sup> ; Anup Ghimire<sup>1</sup> ; Samyog Uprety<sup>1</sup>

<sup>1</sup>School of Public Health and Community Medicine/ B.P. Koirala Institute of Health Sciences/ Nepal (नेपाल)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Introduction:** Health Literacy has become an emerging priority in healthcare system. With the growing burden and multiple effect of low health literacy on patient outcomes, nurses should be aware. The study aims to assess the health literacy knowledge and practice among registered nurses of B.P Koirala Institute of health sciences, Dharan, Nepal. It also analyzes the content of nursing curriculum in relevancy to health literacy part.

**Methodology:** A cross-sectional method was employed among 125 registered nurses of B.P. Koirala Institute of health sciences. Convenience sampling technique was used. For quantitative method, Health Literacy Knowledge and Experience Survey (HLKES-2) was employed to gather data. Descriptive, bivariate and multivariate analysis was done. For qualitative, focus group discussion and Content analysis of curriculum was done.

**Results:** Majority of nurses had not heard the term health literacy before. Findings suggest gap in health literacy knowledge and practice among participants, noticeably in the area like teach back strategies. Health literacy knowledge Score ranged from 0 to 11. The median and IQR were 6 and 2 respectively. 25.0% of respondent had scored up to 5, 50.0% of respondent scored less than 6 and 75.0% of respondent scored up to 7. It was found that most nurses had been engaged in health literacy practice occasionally. The health literacy practice score ranged from 0 to 12. The median and IQR were 7 and 3 respectively. 25.0% of respondents had scored up to 5, 50.0% of respondents scored less than 7 and 75.0% of respondent scored up to 8. Analysis demonstrated that health literacy knowledge and practice remains independent of all study variables. Nurses were found using informal ways of assessing patient health literacy like asking directly to patients or using their own understanding. Health literacy has not been explicitly mentioned in curriculum. However, it has been addressed in the form of communication and patient teaching.

**Conclusion:** Gap was found in health literacy knowledge and practice among nurses. Therefore, integration of health literacy in nursing education to make future nurses competent and continuing education for currently practicing nurses to fill the gap is vital.

*Keywords: health literacy; knowledge; practice; registered nurses; nursing curriculum*

Topic: Health literacy in professional training and performance (incl Medical / Health Professions Schools, Occupational therapy etc.)

Abstract No: 13324

## **A Health communication model for patient understanding and improving health literacy: ACP model (assertiveness, clarity, positivity)**

CRISTINA VAZ DE ALMEIDA VAZ DE ALMEIDA<sup>\*1</sup>

*<sup>1</sup>Advanced Training/ ISPA/ Portugal*

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The communication skills of health professionals are essential to achieve a good level of understanding by the patient. This is one of the dimensions of health literacy. In addition to understanding, access to information and navigability in the complex process of health services, as well as the use of this information, so that decisions are made consistent with the health status of the person, or on whom it depends, are also dimensions that make the individual, groups, communities and society more literate and with better health results.

Methodology: The mixed method used in this research involved 484 health professionals (medical doctors and nurses). The techniques used, included 14 focus group, 1 questionnaire survey (Q-COM-LIT), 7 interviews and qualitative content analysis techniques.

For the conceptualization of the ACP Model, the theoretical approaches of communication were used, anchoring ourselves: a) in relational theory; b) in the situational theory of the public and the theory of problem solving; c) the approach to persuasion; d) in Schramm's and Hall model of coding-decoding, e) and in social cognitive theory, related to the theory of rational action and planned behavior.

Results: The use of specific communication skills, as assertiveness, clarity, and positivity, facilitates the therapeutic relationship and the work of health professional in the process of improving patient understanding and health instruction. Health professionals consider their communication skills an indispensable condition to improve the therapeutic relationship. The assertive, clear and positive language used in the therapeutic relationship contributes to increase the patient's understanding, in view of the orientations transmitted to him by the health professional.

We find that the communication skills are an indispensable condition to increase the quality of health care and patient health literacy. The value of the ACP model in the health relationship was a recommended health communication model for health and health literacy.

*Keywords: Health communication; Communication skills; health literacy; therapeutic relationship; ACP Model*



## Oral Presentation: Session Oral 3 Research and new measures for health literacy Oct. 4th (Mon.) 13:30-15:00

Topic: Research and new measures for health literacy  
Abstract No: 13461

### Validation of Health Literacy & Information Scale

Walter De Caro<sup>2</sup> ; Lucia Mitello<sup>1</sup> ; Elisabetta Corvo<sup>1</sup>

<sup>2</sup>CNAI/ Italian National Nursing Association/ Italy (Italia) <sup>1</sup>DIPRO/ San Camillo Forlanini Hospital/ Italy (Italia) <sup>1</sup>School of Allied and Public Health Professions/ Canterbury Christ Church University/ United Kingdom

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Background. Health information and health systems have become increasingly complex. It is important for healthcare providers understand how level of health literacy affects the process of deliver health care. And at same time is important evaluate the level of Health Literacy not only for research study but in daily clinical practice. The Health professional and the health system have to develop strategies that can be used to address and assess individual health literacy and the health literacy environment. Based on a literature review and theoretical study on health literacy, health information seeking (online-offline) and connected behavior. The aim of this study was to develop and validate a new comprehensive short instrument (5-items) to measure Health Literacy levels and connected behavior on information seeking (online-offline), linked on Health Literacy & Information model. The goal is to have a simple tool useful for inclusion in nursing record and assess to content and face validities and reliability of this instrument.

Result. The participants of the study was a sample (n = 958 - compliance: 92%) of patients (n= 497) and caregivers (n=451) that stayed in general surgical or medical units of one of largest italian largest hospital of Italy and responded to the nurse that administered instrument during hospitalization with caregiver's presence during visit hours in hospital wards. This research examined the factorial validity, internal consistency, and predictive validity of scores from one measure of Health Literacy & Information Scale in Italy. A one-factor model showed good fit as well as factorial invariance between females and males and for patient and caregivers. Content Validity Index of 0.98 and internal consistency estimates for this 5-item scale is higher than 0.91 in both samples. Significant correlation was found with age, information seeking, religion habits and education level. Results suggest psychometric strength and theoretical coherence of the instrument.

Conclusion. The Health Literacy & Information Scale developed in Italian appear as a good indicator of health literacy levels, simple to administrate respect complex and longer measurement instruments of Health Literacy. It is a useful instrument for stable use in the nursing/health professional practice and clinical documentation.

*Keywords: instrument, assessment, nursing practice, development*

Topic: Research and new measures for health literacy  
Abstract No: 13313

## Health literacy and work ability in employees with health-related risk factors within a structural model

Madeleine Gernert<sup>1</sup>; Gerrit Stassen<sup>1</sup>; Andrea Schaller<sup>1</sup>

<sup>1</sup>Working Group Physical Activity-Related Prevention Research, Institute of Movement Therapy and Movement-Oriented Prevention and Rehabilitation/ German Sport University Cologne/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**BACKGROUND:** Health literacy and work ability are both becoming increasingly important as concepts in health promotion. Since health literacy is considered an individual resource for health, which in turn is the basis for good work ability, this is especially the case for employees who already show health-related risk factors. Therefore, the question arises as to what extent health literacy skills have an impact on work ability in this group of employees.

**OBJECTIVES:** The aim of this study was to examine the associations between the six constructs of Lenartz' structural health literacy model (perceptive-motivational conditions: "self-perception", "proactive approach to health", behavioural components: "dealing with health information", "self-control", "self-regulation", "communication and cooperation") and the work ability among employees with health-related risk factors.

**METHODS:** The present evaluation was based on baseline data of a cross-provider workplace-related intervention (158 employees with health-related risk factors, 53.8% women, 48±10 years). Health literacy was assessed with Lenartz's Health Literacy Questionnaire and work ability was measured by the German Short Form of the Work Ability Index (WAI). The associations were examined using structural equation modelling with partial least squares (SmartPLS 2.0.M3).

**RESULTS:** Model's reliability, validity, and structure could be verified. "Self-regulation" showed the only statistically significant direct effect on work ability ( $\beta=0.32$ ,  $t(\infty)=4.00$ ,  $p<0.01$ ,  $f^2=0.09$ ), while in addition "self-perception" had a significant indirect effect ( $\beta=0.13$ ,  $t(\infty)=2.53$ ,  $p<0.05$ ). The model explained 17.5% of the WAI score variance.

**CONCLUSIONS:** The structural model offers promising approaches in terms of designing target group-specific interventions. In employees with health-related risk factors, self-regulation and self-perception should be encouraged. However, additional resources and conditions influencing work ability should be considered.

*Keywords: health literacy; health promotion; work ability; PLS-SEM*



Topic: Research and new measures for health literacy  
Abstract No: 13157

## A review of instruments measuring health professional health literacy

Arianna Maever Amit<sup>1</sup> ; Dr. Ma. Carmen Tolabing<sup>1</sup>

<sup>1</sup>Department of Epidemiology and Biostatistics/ University of the Philippines Manila/ Philippines

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

- A. **Introduction:** Health literacy is gaining attention in research and policy with increasing recognition of the critical role of health professionals. Health professionals help clients overcome health literacy challenges, which negatively and expensively impact health outcomes. However, most studies on health literacy focus on the health literacy status and competencies of the general population. In this systematized review, we identify existing instruments that aim to measure the health literacy of health professionals. We describe the instruments according to their constructs, and their reliability and validity.
- B. **Methods:** We completed a systematized review in Ovid MEDLINE, Ovid PsycINFO, and Scopus in July 2018. We used relevant MeSH search terms and keywords, as well as reference lists of identified papers. We assessed full texts of all articles for inclusion and extracted relevant information.
- C. **Results:** Only three of 252 identified articles were included in our review: health literacy practices and educational competencies for health professionals (HLPECHP); health literacy competencies for European health care personnel (HLCEHCP); and instrument of health literacy competencies (IOHLC) for Chinese-speaking health professionals. All three instruments identified important health professional health literacy (HPHL) constructs encompassing knowledge, attitudes, and skills. Only the IOHLC verified the competencies rigorously using reliability and validity measures.
- D. **Conclusions:** In the field of health literacy, there are only three existing instruments (HLPECHP, HLCEHCP, IOHLC) to measure the health literacy of professionals. Among the three identified instruments, only the IOHLC has been validated. Our findings highlight the need to develop and validate more HPHL instruments across different countries and settings. With validated instruments, we can evaluate HPHL and make appropriate recommendations about tailored patient education programs and trainings in universities and health care sectors.

**Keywords:** health literacy, health professional, instruments, measurement, review

**Disclosure:** Parts of this research have been presented at the 2<sup>nd</sup> ASEAN University Network International Health Promotion Conference, Manila, Philippines, 21 August 2019

*Keywords: health literacy, health professional, instruments, measurement, review*

Topic: Research and new measures for health literacy  
Abstract No: 13451

## The influence of Navigation Health Literacy (HL-NAV) on self-reported health status: Results of a National Population Survey in France

Rajae Touzani<sup>1 2</sup> ; Anne-Déborah Bouhnik<sup>1</sup> ; Stéphanie Vandentorren<sup>3</sup> ; Pierre Arwidson<sup>3</sup> ; Francis Guillemin<sup>4</sup> ; Alexandra Rouquette<sup>5 6</sup> ; Julien Mancini<sup>1 7</sup>

<sup>1</sup>Equipe CANBIOS Labellisée Ligue Contre le Cancer/ Aix Marseille Univ, INSERM, IRD, SESSTIM, Sciences Economiques & Sociales de la Santé & Traitement de l'Information Médicale/ France, <sup>2</sup>SESSTIM U1252/ Institut Paoli-Calmettes/ France, <sup>3</sup>France/ Santé Publique / France, <sup>4</sup>University of Lorraine/ CIC 1433 Clinical Epidemiology, Inserm, CHRU/ France, <sup>5</sup>Bicêtre Hôpitaux Universitaires Paris Sud/ Public Health and Epidemiology Department, AP-HP/ France, <sup>6</sup>INSERM U1018/ Université Paris-Saclay, Univ. Paris-Sud, UVSQ, CESP/ France, <sup>7</sup>Biostatistique et Technologies de l'Information et de la Communication/ APHM, Hop Timone, BioSTIC/ France

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Difficulties faced by patients in processing information about navigation issues in healthcare systems can have an impact on their state of health. The objective is therefore to examine the contribution of navigation health literacy level to self-reported health status.

**Methods:** We used data from the "Health Literacy Survey 2019" whose aims was to calculate and compare the levels of different aspects of health literacy between different European countries. We used French data collected online from 2 003 people. The variables used in this analysis were socio-demographic (age and gender), a score of financial deprivation (a high score represents high financial deprivation) as well as the use of health care which was measured by the number of visits to the general practitioner during the last 12 months. Navigation health literacy (HL-NAV) was measured on a 12-item scale with scores ranging from 0 to 100. Concerning the self-reported of the state of health, we merged two variables on the state of health in general and the presence of chronic diseases and grouped into three modalities: poor state of health with the presence of chronic diseases, intermediate state of health and very good state of health without any chronic illness. We used an ordered probit model in Stata 14.1.

**Findings:** About 45% of French people declare they have a very good state of health with the absence of chronic diseases while 25% have a bad state of health suffering from chronic diseases. According to the signs of the coefficients, an increase in predictors of age, financial deprivation, and visits to the general practitioner significantly decreases the predicted likelihood of self-reported health. While an increase in HL-NAV predictor significantly increases the predicted likelihood of self-reported health. People with a HL-NAV score of 100 had a mean predicted probability of being unhealthy with chronic illnesses of 0.23 and a mean predicted probability of being healthy without any chronic illnesses of 0.48 ( $p < 0.001$ ).

**Discussion:** Sociodemographic factors but also navigation are good predictors of the state of health. Thus, interventions for increased navigation health literacy can have a favourable effect on health status.

**Keywords:** HL-NAV, Health status, Health Literacy, HLS19, France

Topic: Digital and technological health literacy  
Abstract No: 13398

## **Validating the Digital Health Literacy Instrument (DHLI-KR) among South Korean Undergraduates**

Heeran Chun<sup>1</sup> ; Eun Ja Park<sup>2</sup> ; Seul Ki Choi<sup>2</sup> ; Hye-ran Yoon<sup>1</sup> ; Orkan Okan<sup>3</sup> ; Kevin Dadaczynski<sup>4</sup>

<sup>1</sup>Department of Health Administration/ Jungwon University/ Korea, Rep. (대한민국), <sup>2</sup>Health Policy/ Korean Institute for Health and Social Affairs/ Korea, Rep. (대한민국), <sup>3</sup>Interdisciplinary Centre for Health Literacy Research/ Bielefeld University/ Germany (Deutschland), <sup>4</sup>Public Health Centre Fulda/ Fulda University of Applied Sciences/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Digital health literacy is crucial in accessing and applying health information in the COVID pandemic period. University students are exposed to digital technologies every day, but internationally comparable measures for digital health literacy have been rarely studied.

This study aims to adapt the digital health literacy instrument (DHLI) into Korean and to assess the psychometric properties, during the COVID-19 pandemic period. A cross-sectional, nationwide, and web-based survey was conducted among 604 Korean undergraduates during the later COVID-19 period. Based on the Digital Health Literacy Instrument (DHLI) by the Global COVID HL Network, the Korean questionnaire was developed by group translation, expert reviews, and forward-backward translation for validation. The scale reliability and validity were examined using Cronbach's alpha, exploratory and confirmatory factor analysis.

Results support the theoretical four factor structure (information searching, self-generated content, evaluating reliability, determining relevance) in the Coronavirus related DHLI among Korean University students. Internal reliability of the scale was high (Cronbach's  $\alpha=.910$ ). Principal axis factoring extracted the four factors with 12 items and explained 75.1% of total variance (KMO=.910, Bartlett's  $\chi^2=3822.547$ ,  $df=66$ ,  $p<.001$ ). The four factors model was supported by confirmatory factor analysis (GFI=.972, CFI=.984, TLI=.978, RMSEA= 0.045). This study revealed that the DHLI-KR was a valid and reliable measure with appropriate psychometric characteristics.



## Oral Presentation: Session Oral 4 Health literacy and health equity Oct. 4th (Mon.) 13:30-15:00

Topic: Health literacy and health equity  
Abstract No: 13424

### Listening to the voices of people with lived experience of mental health issues

Shandell Elmer\*<sup>1</sup>; Richard H Osborne<sup>1</sup>; Roy Batterham<sup>1</sup>  
<sup>1</sup>School of Health Sciences/ Swinburne University of Technology/ Australia

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### Introduction

Collaboration with people who have lived experience of a health condition is essential for user-centric, experience based co-design processes such as those integral to the Ophelia (Optimising Health Literacy and Access) process. For people with lived experience of mental health issues, participation in co-design to improve services requires careful consideration to create an environment that encourages, values and prioritises their voices, particularly given that previous encounters may have been negative, disempowering and stigmatising. Participation processes were developed within an Ophelia-based project to provide a voice and listen to people with lived experience of mental health issues to inform the development of education, training and resources to support mental health literacy responsiveness.

##### Methods

People who may be experiencing vulnerability, and thus be more likely to experience health inequity and fewer opportunities to participate in formal collaborations, were identified as a priority for recruitment. With the assistance of priority group coordinators, people with lived experience of mental health issues were recruited from these communities: culturally and linguistically diverse; LGBTIQ; rural and remote; carers; Pacific Islander; and people living with disability. They were invited to complete a survey about their health literacy with the option of participating in an online workshop.

Optimal participation and the psychological safety of participants was achieved in an online workshop environment through:

- Small groups (6-10 participants);
- Plain language explanations;
- Using an anonymous polling function to consent for recording; and to choose the vignettes (short stories) to be discussed;
- Research team being off camera during discussion (except for the facilitators);
- Participants opting to leave their camera off and/or use a pseudonym;
- Psychologist attendance; and the creation of a private breakout room for participants to access this support if necessary; and
- Utilising the chat platform to share information with everyone or privately; and
- Skilful facilitation to create a safe and enabling group process.

##### Impact

Ensuring the psychological safety of participants enabled them to make informed decisions about their participation without the need to disclose sensitive information.

##### Lessons learned

Intently listening to voices of people with lived experience yielded rich ideas to co-design strategies to improve mental health literacy responsiveness.

*Keywords: Co-design; mental health literacy responsiveness; lived experience; online workshops; consumer participation*

Topic: Health literacy and health equity  
Abstract No: 13340

## Using cluster analysis to reveal health literacy patterns to inform actions to address health inequities

Christina Cheng<sup>\*1</sup> ; Roy Batterham<sup>1</sup> ; Shandell Elmer<sup>1</sup> ; Richard Osborne<sup>1</sup>  
<sup>1</sup>School of Health Sciences/ Swinburne University of Technology/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

As a strategy to achieve health equity, the health literacy needs of people must be appropriately identified to inform intervention development. Using mean scores to describe the health literacy of populations groups ignores different strengths, limitations and preferences among population subgroups. This study used cluster analysis to gain insights into health literacy patterns in two population groups.

#### **Methods**

The Australian Bureau of Statistics National Health Survey (2017-2018) applied the Health Literacy Questionnaire (HLQ) in a nationally representative survey. The HLQ's 9 domains capture people's determinants and ability to access and use health information and services. Subgroups of different health literacy patterns within two population groups (New South Wales (NSW) and Victoria) were identified using hierarchical cluster analysis with Ward's method for linkage based on the 9 scales of the HLQ. The two sets of patterns were then compared.

#### **Results**

The total number of respondents for NSW and Victoria was 1,018 and 923 respectively. The mean scores for the 9 HLQ scales for the two populations were very similar. A 11-cluster solution for NSW and a 12-cluster solution for Victoria were identified. For NSW, at least 80% of the population displayed limitations in one or more health literacy domains while for Victoria it was 75%. Comparing the clusters, there were 6 clusters with similar health literacy patterns in both population groups. However, NSW had 5 unique patterns and Victoria had 6 unique patterns representing subgroups experiencing different combinations of health literacy challenges.

#### **Conclusions**

This study demonstrates that a one-size-fits-all average score approach across and within a country misses potentially critical information. Traditional descriptive analysis seeks to present averages and does not embrace patterns of strengths, limitations and preferences in individuals across health literacy domains. By comparison, actions/interventions informed on a cluster analysis take account of the unique context and needs of subgroups. To ensure that no-one is left behind, health literacy research must identify the different needs of subgroups so that tailored actions can be developed to support health equity.

*Keywords: Health literacy; health equity; cluster analysis*

Topic: Health literacy and health equity  
Abstract No: 13338

## Health literacy actions – perspectives from people living with inflammatory bowel disease (IBD)/carers and health professionals

Melanie Hawkins<sup>1</sup> ; Christina Cheng<sup>1</sup> ; Sanne Elbrink<sup>1</sup> ; Hailey Fisher; Wayne Massuger; Leanne Raven; Richard H Osborne<sup>1</sup>  
<sup>1</sup>*School of Health Sciences/ Swinburne University of Technology/ Australia*

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

Measurement with the Health Literacy Questionnaire (HLQ) enables development of health literacy profiles. The profiles are presented in workshops as vignettes (fictional but evidence-based stories) to facilitate discussions about actions to support people's strengths or address challenges to accessing, understanding, appraising, remembering and using health information and resources. This study examined differences between health literacy actions offered by people with inflammatory bowel disease (IBD)/carers and actions suggested by health professionals. The aim was to understand different perspectives and expectations for patient care, treatment, and support to manage IBD. This project used the Ophelia (Optimising Health Literacy and Access) community co-design process.

#### **Methods**

Four workshops with health professionals and five with people with IBD/carers were undertaken in March and April 2021. Eight vignettes reflecting diverse health literacy situations across Australia were presented at the workshops. The discussion about each vignette was guided by four questions: Do you know people like this? What problems is this person dealing with? What can be done to help this person? What can organisations and community groups do to help many people like this? Ideas were thematically analysed according to activities or strategies for individuals, families, practitioners, and organisations and communities, as well as by activities or strategies identified by health professionals and identified by people with lived experience of IBD.

#### **Results**

The workshops were highly engaging and elicited >60 health-literacy-informed actions. People with IBD/carers referred more to the need for support groups and practical resources from IBD consumer organisations. Health professionals referred more to the need to give patients better, more, or different information; to increase the use of telehealth; and to increase support from medical professionals and psychologists. Both groups reported the need for multidisciplinary healthcare teams.

#### **Conclusions**

The perspectives and expectations of people with IBD and health professionals were captured by separate workshops and elicited insightful ideas. The involvement of people with IBD and health professionals identified that these groups generated different ideas for how to improve IBD information and resources. The study demonstrates the importance of patient voice in identifying solutions to health literacy challenges.

*Keywords: Health literacy; Health Literacy Questionnaire; Inflammatory bowel disease; Crohn's disease; Ulcerative colitis*

Topic: Health literacy and health equity  
Abstract No: 13413

## THE ASSOCIATION BETWEEN EDUCATION AND HEALTH LITERACY IN A SAMPLE OF STATUTORILY INSURED ADULTS IN NORTHEASTERN GERMANY – RESULTS FROM THE IPHA PROJECT

Selamawit Woldai<sup>1</sup>; Katharina Achstetter<sup>2</sup>

<sup>1</sup>Public Health/ Berlin School of Public Health/ Germany (Deutschland), <sup>2</sup>Department of Health Care Management/ Department of Health Care Management & Berlin Centre of Health Economics Research, Berlin University of Technology/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** The complexity of health systems places high demands on patients. Often, health systems fail to meet the varying cognitive abilities of patients to support them to navigate through the system successfully. The World Health Organization identified education as one of the most influencing factors on health literacy (HL). This study aims to analyze the association between education level and HL in Germany using survey data from the IPHA project (Integrating the Population Perspective into Health System Performance Assessment).

**Methods:** A survey was conducted among 32,000 statutorily insured adults of one sickness fund in Germany. HL was measured with the German version of the HLS-EU-Q16. Questionnaire items were transferred into a HL score ranging from 0 to 50. Education levels were assessed according to the International Standard Classification of Education. Age and gender were used as controlling variables. A multiple linear regression model was computed stratified for gender. Statistical significance was analyzed using one-factor analyses of variances (ANOVA).

**Results:** Overall, 1,004 participants were included in the analysis (56.4 years  $\pm$ 18.7, 56.3% female). Education level was high for 34.4%, medium for 42.6% and low for 13.1%. In total, 138 (13.7%) respondents showed inadequate, 376 (37.5%) problematic, 398 (39.6%) sufficient and 92 (9.2%) excellent HL. The mean HL score was 32.6 ( $\pm$ 7.1). Correlation coefficients resulted in .015 for the total sample, .037 for female and .008 for male. The ANOVA showed significant differences between age groups (.011) and education levels (.017).

**Conclusion:** In this study, differing to previous findings, a weak association was found between education and HL. Furthermore, sex-specific differences became visible. Stratification by gender revealed a stronger correlation of the analyzed variables among women compared to men. Promoting education targeted for different population groups (age, gender) can therefore influence health literacy and increase health equity.

*Keywords: Health literacy; Education; Health equity; Health systems*

Topic: Health literacy and health equity  
Abstract No: 13287

## Comparison of Health literacy and eHealth literacy among Arabic-speaking migrants and Swedish-speaking residents in Sweden

Josefin Wångdahl<sup>1</sup> ; Lina Bergman<sup>2</sup> ; Ulrica Nilsson<sup>2,3</sup> ; Karuna Dahlberg<sup>4</sup> ; Maria Jaensson<sup>4</sup>

<sup>1</sup>Department of Public Health and Caring Sciences/ Uppsala University/ Sweden (Sverige), <sup>2</sup>Department of Neurobiology, Care Sciences and Society/ Karolinska Institute/ Sweden (Sverige), <sup>3</sup> Department of Perioperative Medicine and Intensive Care/ Karolinska University Hospital/ Sweden (Sverige), <sup>4</sup>School of Health Sciences, Faculty of Medicine and Health/ Örebro University/ Sweden (Sverige)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Introduction:** Worldwide, there are wide disparities in the health status of different social groups. Health literacy is important to understand and make decision concerning one's own health and limited health literacy has been associated with poor health outcomes, especially among vulnerable groups such as migrants.

**Objective/methods:** A cross-sectional study aiming to explore and compare Health literacy and eHealth literacy among residents in Sweden having Swedish versus Arabic as their native language. Data was collected in 2019 from two groups of residents in Sweden (i.e., native speakers of Swedish and native speakers of Arabic). Comprehensive Health Literacy (CHL) was measured using the short form of the Health Literacy survey European Questionnaire (HLS-EU-Q16) and eHealth literacy (eHL) measured with the eHealth literacy scale (eHEALS). Overall CHL and eHL levels as well as answers on item level from the two groups were compared. Uni- and multivariate logistic regression analysis were performed to examine the associations between native language; and limited eHL and CHL.

**Results:** A total of 703 residents participated, 51% had Swedish and 49% had Arabic as native language. Differences in levels of CHL and eHL were found between the two groups. Residents with Arabic as native language that had lived < 11 years in Sweden had lower CHL and eHL levels compared to those that had lived in Sweden  $\geq$  11 years. Further, having Arabic as native language was associated with limited CHL (odds ratio 3.9, 95% CI 2.82-5.41,  $p < .01$ ) and limited eHL (odds ratio 1.75 95% CI 1.24-2.45,  $p < .01$ ) compared to having Swedish as a native language. These associations remained after adjusting for socio-demographic variables, self-perceived health, frequency of internet use, and the perceptions of internet as important and useful to find information about one's own health.

**Conclusions:** The results indicate that having Arabic as native language in Sweden is associated with limited CHL and eHL. Yet, level of CHL and eHL was influenced by numbers of years living in Sweden and findings further show that eHL was less affected than CHL. To improve HL, digital health information should be prioritized among Arabic speaking migrants.

*Keywords: Health literacy; E-health literacy; Ethnic minorities*

Topic: Health literacy and health equity  
Abstract No: 13131

## Linguistic equity for health equity: analyzing the language of requests for action in public health communication during COVID-19 pandemic

Anthony NG<sup>1</sup>

<sup>1</sup>Department of English/ The Hong Kong Polytechnic University/ Hong Kong (香港)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Sociolinguists know about health – it is what you lose when you have no equal access to accurate information and meaning in healthcare. Meanwhile, requests for action in healthcare are meaningless or even hazardous to the addressee unless implemented properly. They are also significant for ensuring clear communication, facilitating interventions of health literacy, delivering quality healthcare services throughout our life-long health journey, yet responsible for inducing indeterminacy between requests (for action) and references (of information) if presented unclearly or implicitly. Such indeterminacy may cause (a) socio-communicative risks and failures in healthcare (Matthiessen,2013), and (b) linguistic inequity, undermining health literacy that enhances health equity and social justice (Paasche-Orlow et al.,2018), and possibly legitimizes elitence (Thurlow & Jaworski,2017).

This compromises the essence of Critical Health Literacy (CHL) in promoting health literacy, health independence and collective social empowerment (Nutbeam,2000; Chinn,2011; Sorensen et al.,2012; Sykes & Wills,2018). Therefore, during the COVID-19 pandemic citizens could be misled or mis-informed about the severity of the situation, individual protection and collaborative responsibilities. This study examined the “language of requests” in cross-institutional public health communication (online health letters from Hong Kong Government to local hospitals) as a “semiotic system of social context” involving instances of exchange of social meanings according to specific institutional roles, accountabilities and counterparty risks (Halliday, 1978 & 1984). The sample included ALL communication (10 letters) issued during the 60 days (first wave) since the first locally confirmed case of infection (23/1/2020).

An ideational approach was adopted to “construe each process as a quantum of change in our experience”, where 343 instances of processes (requests and references) were identified and then quantitatively and qualitatively analyzed, drawing upon resources of Systemic Functional Linguistics (Halliday & Matthiessen,2014) and Critical Consciousness of structural inequalities (Freire,1973). Although 11% of the instances displayed indeterminate tendency (8% hidden requests and 3% hidden references) in this critical pre-hospitalization context (disease prevention and health protection), the systemic registerial profiling of requests (*Action Orientation*), which highlighted unique ideational and lexical elaborations in “requests” and “references”, can contribute to reducing indeterminacy causing linguistic and health inequities, and facilitating CHL significant in containing diseases.

*Keywords: Linguistic and Health Equities; Requests for Action; Critical Health Literacy; Public Health; COVID-19 pandemic*



## Workshop 1, Oct. 5th (Tue.) 11:00-12:30

Topic: Health literacy in professional training and performance (incl Medical / Health Professions Schools, Occupational therapy etc.)

Abstract No: 13411

### Health Literacy Ethics: Questions for Health Literacy Professionals to Consider

Sabrina Kurtz-Rossi<sup>\*1</sup> ; Monique Hill<sup>\*2</sup>

<sup>1</sup>Public Health and Community Medicine/ Tufts University School of Medicine / United States, <sup>2</sup>MUSC Libraries | Office of Health Literacy and Equity/ Medical University of South Carolina/ United States

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Health literacy is advancing population health and enhancing the effectiveness of health care systems. As in any field of study and practice, ethical questions exist and must be raised and discussed among researchers and practitioners engaged in the work. In this workshop, participants will consider questions being debated within the field of health literacy. These questions do not have clear answers, and some are ethical in nature. For example: Who decided what information is most important to communicate? Should health care providers screen for low health literacy? What do we mean by evidence-based? Do our interventions actually achieve critical health literacy? The role of the presenter in this session will be to summarize background information regarding questions of concern and facilitate discussion among participants. The role of participants in this session will be to share perspectives and learn from each other. This workshop is designed for advanced professional development, and will promote health literacy leadership, ethical practice, and networking among participants.

Upon completing this workshop, participants will be able to

- Discuss questions of concern raised in the literature and among health literacy professionals that are ethical in nature
- Consider the role of leadership past, present and future in the development of health literacy as a field of research and practice
- Share resources in support of health literacy ethics and leadership for future reference and to share with others

*Keywords: Ethics, health literacy, leadership*

**Symposium 1, Oct. 4th (Mon.) 13:30-15:00**

Topic: Research and new measures for health literacy  
Abstract No: 13302

**Trends in health literacy in Germany – new population-based data before and during the Covid-19 pandemic**

Dominique Vogt<sup>\*1</sup> ; Eva-Maria Berens<sup>\*1</sup> ; Lennert Griese<sup>\*1</sup> ; Svea Gille<sup>\*1</sup> ; Orkan Okan<sup>\*1</sup> ; Julia Klinger; Doris Schaeffer<sup>1</sup>  
<sup>1</sup>*Interdisciplinary Centre for Health Literacy Research/ Bielefeld University/ Germany (Deutschland)*

**Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The results of the European Health Literacy Survey (HLS-EU) have received great attention in many countries and have led to a series of follow-up studies – also in Germany. The first representative population survey for Germany was published in 2014. However, in the meantime numerous changes in society emerged – above all the Covid-19 Pandemic – which require new insights on health literacy. Now, new data on general as well as context specific health literacy for Germany is available. The Results of 2 new population-based health literacy surveys will be presented with the proposed symposium.

The first presentation of the symposium provides a trend analysis on the development of health literacy during a period of seven years in the German population. It focuses on developments and changes in health literacy in the general population as well as in vulnerable groups. The HLS-GER 2 is based on a representative cross-sectional survey of 2.151 people aged 18 years and older conducted between December 2019 and January 2020.

The second and third presentation will focus the thematic expansion through the inclusion of the new topics digital health literacy and navigation health literacy. Presentations will give an overview of new measure of specific HL, which were developed, surveyed and analyzed within the Second Health Literacy Survey Germany (HLS-GER 2) as part of the international Health Literacy Survey Project (HLS<sub>19</sub>) and the “WHO Action Network on Measuring Population and Organizational Health Literacy (M-POHL)”.

In the final presentation the focus will be on corona-specific health literacy. The HLS-COVID-19 study is an online representative trend study of corona-specific health literacy in Germany that took place at three measurement time points in 2020.

The results on the one hand show the importance on health literacy (during a pandemic) and on the other hand provide numerous indications of how appropriate interventions can be designed in a promising way. They also point out how important it is to assess health literacy in a context-specific manner in order to map the diverse challenges when dealing with health information and thus strengthen health literacy of individual population groups in a targeted manner.

*Keywords: health literacy, germany, digital health literacy, covid-19, population-based data*

## Symposium 2, Oct. 4th (Mon.) 13:30-15:00

Topic: Health literacy and older adults  
Abstract No: 13263

### Low functional health literacy and multiple medications in community-dwelling older adults: a population-based cohort study

Jacques Shebehe<sup>\*1</sup>; Scott Montgomery<sup>1 2 3</sup>; Anders Hansson<sup>4</sup>; Ayako Hiyoshi<sup>1 2 5 6</sup>

<sup>1</sup>Clinical Epidemiology and Biostatistics, School of Medical Sciences/ Örebro University/ Sweden (Sverige), <sup>2</sup>Department of Epidemiology and Public Health / University College London/ United Kingdom, <sup>3</sup>Clinical Epidemiology Division, Department of Medicine, Solna/ Karolinska Institutet/ Sweden (Sverige), <sup>4</sup>University Health Care Research Centre, Faculty of Medicine and Health/ Örebro University/ Sweden (Sverige), <sup>5</sup>Department of Public Health Sciences/ Stockholm University/ Sweden (Sverige), <sup>6</sup>Department of Public Health Sciences/ Osaka University Graduate School of Medicine/ Japan (日本)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Adequate health literacy (HL) is important for patients to manage their health conditions including medications. Knowledge of how HL influences multiple medications risk is incomplete. We examined whether functional HL is associated with risk of multiple medications.

**Methods:** We used data from 6368 women and men aged  $\geq 50$  (median 66 years) from the English Longitudinal Study of Ageing. Functional HL was examined at wave 5 (2010/11) with four questions about a fictitious medicine label, with each question being scored 1 for correct answer and 0 otherwise. HL was classified as low (scored 0-2), intermediate (scored 3), or high (scored 4, reference category). Data on medications were collected at wave 6 (2012/13). Incidence rate ratios (IRR) and 95% confidence interval (CI) for the association between HL and the number of medications were estimated using binomial regression, controlling for age, sex, socioeconomic characteristics, morbidity, and cognitive function. As the risk of multiple medications changes with age and morbidity, we further stratified by age (50-64 and  $\geq 65$  years) and morbidity.

**Results:** Low, intermediate, and high HL was observed in 9%, 16%, and 75% of the participants, respectively. Those with low HL, intermediate and adequate HL received on average 4.8 (95% CI 4.5-5.1), 4.0 (3.8-4.2) and 3.3 (3.2-3.4) medications, respectively. After adjustment, compared with high HL, intermediate and low HL were not associated with the number of medications (IRR 1.03 (0.98-1.09) and 1.06 (0.97-1.15), respectively). But among participants aged 50-64 years who reported no morbidity, intermediate HL was associated with a greater number of medications (IRR 1.16 (1.01-1.35)) and an even higher magnitude for low HL (IRR 1.46 (1.04-2.05)) compared with high HL.

**Conclusion:** Low functional HL was associated with a raised risk of multiple medications only among younger participants before multimorbidity sets in. These findings could be useful for policymakers and caregivers to find strategies to support patients at higher risk of multiple medications.

*Keywords: health literacy; polypharmacy; ageing; older age.*



## Oral Presentation: Session Oral 5, Oct. 4th (Mon.) 16:30-18:00

Topic: Research and new measures for health literacy  
Abstract No: 13363

### Development and Validation of an Australian parenting health literacy skills instrument: The Parenting Plus Skills Index

Danielle Muscat<sup>\*1</sup>; Kirsten McCaffery<sup>1</sup>; Don Nutbeam<sup>3</sup>; Daniel Costa<sup>1</sup>; Julie Ayre<sup>1</sup>

<sup>1</sup>Faculty of Medicine and Health, School of Public Health, Sydney Health Literacy Lab/ University of Sydney / Australia

<sup>3</sup>Faculty of Medicine and Health / University of Sydney / Australia <sup>1</sup>Faculty of Science, School of Psychology/ University of Sydney / Australia

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Background: Existing instruments for assessing health literacy skills in parents have limited scope to inform the design and evaluation of health literacy interventions. In this study we aimed to develop and validate a new online performance-based measure of health literacy for Australian parents, the Parenting Plus Skills Index (PPSI). The instrument aimed to assess functional, communicative and critical health literacy skills.

Methods: The PPSI was developed in three phases: 1) a Modified Delphi Expert Panel to provide feedback on 34 initial items (3 Australian and 5 international experts in health literacy and maternal and child health); 2) Evaluation of psychometric properties of each item using a multidimensional item response theory model in a sample of Australian adults of parenting age (20-44 years) (N=500); 3) Assessment of subset of items in an independent sample (N=500), and assessment of criterion validity (associations with other health literacy instruments).

Findings: Following the three phases, 13 items were included in the final instrument. These items covered topics such as immunisation, healthy eating, body temperature, medicine dosage and timing, physical activity, and evaluated functional, communicative and critical health literacy skills, including those related to searching for information online. Participants scored on average 8.9/13 (69%). The instrument demonstrated acceptable reliability ( $r=0.70$ ) and was significantly correlated with other performance-based health literacy instruments (e.g. S-TOFHLA:  $r=0.70$ ; Newest Vital Sign:  $r=0.65$ ).

Discussion: The PPSI is a validated 13-item online performance-based instrument that assesses health literacy skills for parents in an Australian setting. It demonstrates strong psychometric properties, and is a brief and practical instrument that fills an important gap in available health literacy instruments that may facilitate development and evaluation of health literacy interventions. In this presentation, we will also discuss in detail our learnings from developing a direct measure of parenting health literacy skills and offer a 13-item checklist which can inform the development of health literacy instruments for other health contexts or health conditions.

Topic: Research and new measures for health literacy

Abstract No: 13356

## What instructions are available to health researchers for writing lay summaries?

Karen Gainey<sup>1</sup> ; Steven Kamper<sup>2</sup> ; Mary O'Keeffe<sup>3</sup> ; Adrian Traeger<sup>3</sup> ; Danielle Muscat<sup>1</sup> ; Christopher Williams<sup>4</sup> ; Kirsten McCaffrey<sup>1</sup>

<sup>1</sup>Sydney Health Literacy Lab, School of Public Health/ The University of Sydney/ Australia, <sup>2</sup>Faculty of Medicine & Health / University of Sydney & Nepean Blue Mountains Local Health District/ Australia, <sup>3</sup>Institute for Musculoskeletal Health, Sydney Local Health District / The University of Sydney/ Australia, <sup>4</sup>School of Medicine and Public Health/ The University of Newcastle/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The study objective was to better understand the characteristics of, and requirements for, lay summaries by reviewing multiple data sources. Using a scoping review methodology, we searched the websites of each identified data source to determine if they require, suggest, or refer to lay summaries. The data sources were journals, global health organisations, professional medical organisations and multi-disciplinary associations, consumer advocacy groups and funding bodies from Australia, USA, UK, Canada, and New Zealand. These data sources were linked to the top 10 non-communicable diseases. Using an inductive approach, we identified characteristics of lay summaries and lay summary writing instructions and extracted data on these characteristics. These characteristics are lay summary formats, audience, requirements, authorship and labels, and elements of lay summary writing instructions (e.g., word count/length). The websites of 526 data sources were searched. Of these, 124 published or mentioned lay summaries and 108 provided writing instructions. For lay summaries, most were in journals, written by the author of the published paper and non-mandatory. Thirty-three distinct labels for a lay summary were identified, the most common being “graphical abstract”, “highlights” and “key points”. From the lay summary writing instructions, the most common elements for written lay summaries referred to: structure (86%), content (80%) and word count/length (74%). The least common elements were readability (3%), use of jargon, acronyms, and abbreviations (24%), and wording (29%). We located few instructions related to readability, use of jargon, acronyms and abbreviations, and wording. Some instructions provided structured formats via subheadings or questions to guide content, but not all. Only half mandated the use of lay summaries. For lay summaries to be effective, writing instructions should consider the intended audience, ideally incorporating consumer input into their development. Presently, lay summaries are likely to be inaccessible to many consumers, written at a high reading level, with jargon, acronyms, and abbreviations. Ideally, all research articles will have an accompanying lay summary. Mandatory lay summaries, however, are of limited value without clear and thorough instructions to guide authors.

*Keywords: Health communication, lay summary, plain language summary, readability, jargon*



Topic: Research and new measures for health literacy  
Abstract No: 13446

## Generic health literacy in adolescents. First results with the youth-specific “Measurement of Health Literacy Among Adolescents”-Questionnaire

Susanne Jordan<sup>\*1</sup> ; Anne-Kathrin Loer<sup>1</sup> ; Olga Maria Domanska<sup>1</sup>

<sup>1</sup>Department of Epidemiology and Health Monitoring/ Robert Koch Institute/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Introduction**

Adolescence implies specific issues in terms of health literacy. Adolescents have to handle various developmental tasks and increasingly take responsibility for their own health. For developing effective interventions to promote health literacy in adolescence, a robust knowledge of the current level of health literacy in this particular age group is required and still missing in many countries. Filling this research gap, the aims of the study were (1.) to develop a measurement instrument specifically for generic health literacy of adolescents aged 14 to 17 years, and (2.) to assess whether there were differences in the dimensions of generic health literacy among adolescents.

#### **Methods**

The self-report measurement tool “Measurement of Health Literacy Among Adolescents”-Questionnaire (MOHLAA-Q) was developed and validated for the use among adolescents aged 14-17 years. It consists of four scales representing cognitive, affective, behavioral, and communicative dimensions of generic health literacy. The MOHLAA-Q was used in a representative nationwide cross-sectional online survey among adolescents aged 14 to 17 years (n=1,235) in Germany. The entire questionnaire of the survey includes socio-demographic variables as well as variables on self-efficacy, social support, and health behavior. Bivariate and multiple logistic regression analyses were carried out.

#### **Results**

Relevant differences regarding the four scales of generic health literacy among adolescents were found. The highest proportion of adolescents with poor health literacy levels showed the scales “health-related communication skills” (28.13%) and “health-related knowledge” (22.73%). For the scales “dealing with health-related information” (8.41%) and “attitudes toward one’s own health and health information” (8.81%) these proportions were clearly lower. Significant associations between each of the four scales and different factors such as gender, education, social support, physical activity and nutrition were found, but only self-efficacy was significant for all scales.

#### **Discussion**

The MOHLAA-Q allows to identify differences in the cognitive, affective, behavioral, and communicative dimensions of health literacy of adolescents and, indicates that the different dimensions should be addressed in measuring and improving health literacy in adolescence. The results support using different scales in a health literacy measurement instrument in order to reflect the multidimensionality of health literacy.

*Keywords: Self-report measurement tool; multidimensionality of health literacy; youth; population-based survey; Germany;*

Topic: Research and new measures for health literacy  
Abstract No: 13435

## **Pathways linking parental health literacy with health behaviours directed at the child: a scoping review**

Maja Pawellek<sup>1</sup> ; Felicitas Maria Kopf<sup>1</sup> ; Nina Egger<sup>2</sup> ; Carolin Dresch<sup>3</sup> ; Uwe Mattered<sup>4</sup> ; Susanne Brandstetter<sup>1</sup>  
<sup>1</sup>Klinik St. Hedwig/ University Children's Hospital Regensburg (KUNO), University of Regensburg/ Germany (Deutschland),  
<sup>2</sup>Department of Public Health and Health Education/ Freiburg University of Education/ Germany (Deutschland), <sup>3</sup>Department of  
Research Methods/ Freiburg University of Education/ Germany (Deutschland), <sup>4</sup>Institute of Social Medicine and Health  
Systems Research, Medical Faculty/ Otto von Guericke University/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

*Background:* Health literacy (HL) is thought to be crucial for the management of the manifold demands relating to child health which parents are faced with. Albeit many studies investigated parental HL and health behaviours (HBs) directed at the child, knowledge about the pathways which link parental HL with HB is scarce. The aim of this scoping review was to identify and comprehensively describe the variety of pathways linking parental HL with HBs directed at the child which were empirically analysed in previous studies.

*Methods:* Following established scoping review methods database searches were conducted in MEDLINE, EMBASE, PsycINFO and Web of Science on 5<sup>th</sup> March 2020. Eligibility criteria included primary, empirical studies assessing parental HL and HB directed at the child in the general parent population. Titles and abstracts were screened independently by six reviewers for potentially relevant publications and data was extracted using standardized data extraction forms.

*Results:* The search identified 6916 articles for title and abstract screening. After full text review, 50 studies were included in this review. Most studies (N = 24) assumed a direct association between HL and HBs and only few studies (N = 4) used more complex models investigating different pathways or mediation and/or moderation models.

*Discussion and conclusion:* Overall, the evidence on the underlying pathways linking parental HL and HBs directed at the child is mixed and fairly limited. More research on how parental HL is linked with HBs is needed for advancing both the research on HL and public health practice.

*Keywords:* *scoping review; health literacy; health behaviours; pathways*

Topic: Research and new measures for health literacy  
Abstract No: 13403

## Chronic disease and health literacy – an interdisciplinary doctorate programme to inform interdisciplinary research challenges

Jonas Lander<sup>\*1</sup>; Gabriele Seidel<sup>1</sup>; Ronny Klawunn<sup>1</sup>; Susanne Melin<sup>2</sup>; Marie-Luise Dierks<sup>1</sup>

<sup>1</sup>Institute for Epidemiology, Social Medicine and Health Systems Research/ Hannover Medical School/ Germany (Deutschland), <sup>2</sup>Project Management/ Robert Bosch Foundation/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Health literacy (HL) is a key competence in people's dealing with health and the health system. This is especially true for people with chronic diseases. Here, there is a great need for adapted interventions not only at the individual level, but especially in organizational and navigational HL areas with the involvement of health professionals. To develop, test and evaluate appropriate interventions based on theoretical concepts, scientifically qualified professionals are essential.

**Objectives:** To contribute to the development of a holistic approach to chronic disease-specific HL research and practice, a 3-year multicenter, German-based doctorate programme was established, funded by the Robert Bosch Foundation.

**Methods:** Scholarship holders (n=12) 1) build a common understanding about central elements of chronic disease-specific HL research via training with (inter-)national experts and continuous peer-exchange, 2) refine their projects along structured internal and external feedback and according to the overall research framework, and 3) train to become HL advocates by ongoing subject-specific training, e.g., regarding HL measurement (research) or intervention planning (practice). In terms of content, research projects are arranged and (re-)formulated around eight overarching, pre-defined research domains from theory development to curriculum-based HL training, based on recommendations by the German National HL Action Plan.

**Results:** The topics, chosen and adapted by the doctoral candidates, cover a range of research areas, i.e., analysis and adaptation of written health information, measurement of disease-specific individual health literacy, pilot development of case-specific HL interventions, and the assessment of and recommendations for current organizational approaches towards improving HL, e.g. in hospitals and health insurances. Therefore, and based on current conceptual understandings about HL, these contents are embedded in the continuum from personal to situational and social HL determinants, from theoretical understandings to practical application, and from knowledge to action.

**Discussion:** Conducting a multifaceted doctorate research programme on HL requires constant adjustment of the single research projects, so that the overall programme suits HL research and practice needs. Our experience so far shows that it is particularly important to cover the spectrum of theoretical, methodological, and content-wise approaches to HL research to contribute to a holistic support model for chronically ill people.

*Keywords: Health literacy training, curriculum development, chronic disease, young professionals*



Topic: Health literacy and health equity  
Abstract No: 13378

## Richard's focus: Practical health literacy development to improve health and equity

Richard Osborne<sup>\*1</sup>

<sup>1</sup>Centre for Global Health and Equity/ Swinburne University of Technology/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Distinguished Professor of Health Sciences; Director, Centre for Global Health and Equity, Swinburne University of Technology.

Richard is an epidemiologist and health services researcher. He holds a prestigious Australian NHMRC Principal Research Fellowship focusing on the global implementation of health literacy-informed interventions to reduce inequalities and assist countries to reach the UN Sustainable Development Goals.

He is an adviser to the World Health Organisation and is a Clarivate Highly Cited Researcher (2018 top 1% most influential researcher globally in the cross-field category). He holds Honorary Professor positions at the University of Copenhagen, Denmark, and Thammasat University, Thailand. He was the health literacy consultant to the WHO Independent High-Level Commission on Noncommunicable Diseases.

### **Current research and impact:**

Richard and his team have a track record in building new methods and tools. These include a range of measurement and quality improvement tools (e.g., HLQ, eHLQ, heiQ, READHY, CHAT, OrgHLR) and the Ophelia (Optimising Health Literacy and Access) Process – a systematic approach to co-designing and implementing health literacy informed interventions that are needed, wanted and implementable.

His team developed the Health Literacy Questionnaire (HLQ), one of the most widely used health literacy tools in the world. The rigour of the psychometric testing of the HLQ in different cultures and languages has been exceptional (Europe, Africa to Asia). This is important as the HLQ supports decision-making about clinical trials and through government-sponsored National Health Surveys, multi-national evaluations, and numerous quality improvement initiatives. It is applied in over 500 research projects in over 60 countries.

Exciting new initiatives and ideas:

Richard actively is seeking to move health literacy from unidimensional testing and deficit approaches, to contemporary co-design and strength-based health literacy development approaches that actually reduce inequality. This is expressed in the World Health Organization's National Health Literacy Development Programme and collaborative partnerships across Asia, Africa, North and South America and Europe.

*Keywords: health equity, interventions, health literacy development, co-design, validity testing*

## **Oral Presentation: Session Oral 6 Health literacy, equity, advocacy and policy Oct. 4th (Mon.) 16:30-18:00**

Topic: Health literacy and health equity  
Abstract No: 13383

### **The Ophelia process: generating and promoting meaningful participation of refugee and migrant communities in health information and services**

Zaman Jawahar<sup>\*1</sup> ; Shandell Elmer<sup>1</sup> ; Melanie Hawkins<sup>1</sup> ; Richard H Osborne<sup>1</sup>

<sup>1</sup>*Department of Health Sciences and Biostatistics / Swinburne University of Technology/ Australia*

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### **Background**

Service providers often experience difficulties in engaging refugees and migrants in health information and services. Community engagement is critical in ensuring meaningful participation of diverse groups, including those who frequently experience vulnerability. Exploring the factors that determine full engagement and uptake of proof-of-concept services by refugee and migrant communities is crucial to ensure equitable access and social justice. A systematic and genuinely participatory health literacy approach such as the Ophelia (Optimising Health Literacy and Access) process seeks to ensure the actors within health services are better equipped to address diverse and unique needs. The Ophelia process involves undertaking a community health literacy needs assessment; developing vignettes (short stories) to represent the health literacy strengths and limitations of subgroups within a community; and then engaging stakeholders including community members in co-designing realistic solutions.

##### **Methods**

Service providers were approached and briefed on the purpose and process of the project. They identified if refugee and migrant groups are experiencing disadvantage related to migration experiences and status. An advisory committee was established and consists of community members and leaders. Community leaders and members were consulted to identify the most appropriate methods and health literacy assessment process for the study.

##### **Effects**

A co-design and participatory approach during the initial engagement process enabled stakeholders, including community members, to fully participate and have a real sense of ownership from the initial planning phase. This process has led to the development of a genuine relationship between researchers, community leaders and community members. Multiple consultations with stakeholders have led to the adaptation of the Ophelia process. The Conversational Health Literacy Assessment Tool (CHAT) was identified as the most relevant health literacy assessment tool for the community of interest. The CHAT identifies health literacy needs and strengths of people in a systematic way using a series of open-ended questions.

##### **Conclusion**

The Ophelia process is adaptable and useful to co-design culturally and linguistically appropriate solutions to enhance meaningful community engagement and participation in health information and services.

*Keywords: Community engagement and participation; participatory co-design approach; health literacy; refugees and migrants; health equity*



Topic: Health literacy and health equity  
Abstract No: 13330

## Increase and improve health literacy knowledge and accelerate action with communities of practice

Sanne Elbrink<sup>1</sup> ; Shandell Elmer<sup>1</sup> ; Richard Osborne<sup>1</sup>  
<sup>1</sup>School of Health Science/ Swinburne University/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### *Introduction/background/problem*

Health literacy plays an important role in public health promotion and overcoming multiple health challenges such as non-communicable diseases, COVID19, and mental health. However, much more needs to be known about health literacy, and how to develop and implement effective interventions. The aim of this study was to develop a framework that shows how CoPs can advance health literacy knowledge and contribute to accelerating action.

#### *Description of objectives/methods/intervention*

We have undertaken a realist review of available documentation to uncover what contexts of CoPs trigger (or do not trigger) certain mechanisms that lead to particular health literacy outcomes. Our realist review commenced with a broad scoping review of CoPs in health settings. We then narrowed our focus to CoPs that led to (implicitly) advancing the knowledge or action of at least one health literacy element: access, understand, appraise, remember, or apply health information. We involved stakeholders from multiple levels in our process to increase practical relevance and uptake of the findings.

#### *Results/effects/impact/changes*

Research about CoPs that explicitly focused on health literacy was scarce, however we found several indications about CoPs implicitly contributing to one or more elements of health literacy. We found that structure, activities and facilitation trigger participation, trust, and collaboration, leading to increased knowledge about elements of health literacy. The type of members and structure can trigger empowerment, confidence, and collaboration, leading to changes in the daily health literacy practices of professionals. We also found some indications of CoP-members who distributed their new knowledge outside the CoP into their organisation or community.

#### *Discussion/conclusion/lessons learned*

Our review clearly indicates that CoPs can support increases in health literacy knowledge, as well as accelerating action to change practice. We created insights about what contexts trigger mechanisms that can contribute to these outcomes. However, the number of CoPs who explicitly focused on health literacy was low and future research should focus on CoPs who explicitly and purposefully focus on advancing health literacy.

*Keywords: health literacy; communities of practice; knowledge; action; realist review*



Topic: Health literacy and health equity  
Abstract No: 13329

## Developing a method to co-design communities of practice that advance health literacy

Sanne Elbrink<sup>1</sup> ; Richard Osborne<sup>1</sup> ; Shandell Elmer<sup>1</sup>  
<sup>1</sup>School of Health Science/ Swinburne University/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### *Introduction*

Health literacy is a crucial element to realise the Sustainable Development Goals, and a response is needed that goes beyond the health sector. Countries, organisations and communities need to take action, collaborate and support knowledge and learning about health literacy on all levels. Communities of practice (CoPs), where people share and develop knowledge, are a promising and commonly used tool to support these processes, yet little empirical data exist on how to set them up to ensure their utility. Spontaneously, bottom-up, evolved CoPs may not be specifically deployable as a knowledge tool, as they run their own agenda. Purposefully, top-down, established CoPs often struggle with issues such as trust, participation, support, and satisfaction. In our research we explore a way to capitalise on the advantages of both approaches by co-designing CoPs to focus on advancing health literacy.

#### *Methods*

We used contemporary co-design approaches in health to develop this co-design approach for CoPs. Preparation starts with exploring how the context of CoPs triggers certain mechanisms that advance health literacy. Exploration is followed by a needs assessment, focussing on the aims, expectations and previous experiences of members of the CoPs. Outcomes from the exploration and needs assessment form the plan about how to start and run CoPs. Outcomes and plans are shared between members and are continuously amended consistent with co-design principles.

#### *Results*

Initiators of CoPs indicate an initial co-design exploration is helpful for starting CoPs. Results from the needs assessments indicate different expectations from members versus initiators. Members signify they like to start with increasing their own individual knowledge before contributing to an overarching aim. Members have high expectations from a facilitator and other members, yet they often marginalise their own role. Participation in previous CoPs brings positive and negative experiences, resulting in recommendations for organising and structuring CoPs.

#### *Discussion*

The co-design process has supported the process of establishing CoPs that are actively focussing on the aims of the initiator and members. How co-design affects outcomes of advancing health literacy, is ongoing and implemented through a practical manual.

*Keywords: Co-design; communities of practice; knowledge; health literacy; professionals*



Topic: Health literacy policy and advocacy  
Abstract No: 13432

## Historical evolution of the concept of health literacy

Elisabetta Corvo<sup>1</sup> ; Walter De Caro<sup>1 2</sup>

<sup>1</sup>*School of Allied and Public Health Professions/ Canterbury Christ Church University/ United Kingdom, <sup>2</sup>CNAI/ Italian National Nursing Association/ Italy (Italia)*

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

In recent years the concept of health literacy has gained increasing attention, in the last two years even more due to the pandemic and the need to communicate by the entire health sector with the general public. Since its first appearance in 1974 the concept has undergone a high number of transformations, adaptations and modifications. This research aims to evaluate from an historical, political and social vision what may have been the reasons that led to the evolution of the concept and its definitions. An analysis and appraisal of the evolution of the concept of HL over time was carried out, reviewing the reasons that led to a constant revision of the concept seems timely in the light of the growing interest that is gaining this concept. A appraisal of the a number of basic sources which discussed and defined the concept of health literacy within different context, during these the past 50 years to evaluate the historical-political and social influence of the evolution of the concept. The source analysed ranged from WHO documents, European reports, and research articles focused on discussing new definition of the concept.

The results of the analysis show that the elements that had the greatest weight in the evolution of the concept were eminently social and policy, in particular the evolution of medicine and access to care has changed the concept bringing it to today's definitions.

In the future, the concept will undergo further modifications that will further change its main dimension.

*Keywords: concept, health literacy definition, evolution, policy*



Topic: Health literacy policy and advocacy  
Abstract No: 13301

## Health Literacy in Africa: Opportunities and challenges

Guda Alemayehu<sup>\*1</sup> ; Eshetu Girma<sup>1</sup> ; Bezawit Ketema<sup>1</sup> ; Finina Abebe<sup>1</sup> ; Stefanie Harsch<sup>1</sup>  
<sup>1</sup>IHLA/ African Health Literacy Association/ Ethiopia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Introduction**

Health literacy is an emerging public health initiative. Health literacy is an effective approach in terms of obtaining, processing, negotiating, and making decision on one's own health and other around. In Africa the concept of health literacy is in its infancy stage. In Africa there are several opportunities and challenges that needs to be identified and taken into consideration while health literacy initiatives are implemented.

#### **Description**

In terms of opportunities the health literacy will provide opportunities for African health ministries to promote individual, family and community health seeking behaviors, empowers individual citizens to demand rights and quality services and enables engagement in collective health promotion actions through health literacy lens. Health literacy and health system literacy are a sharp-edged solution in informing individuals, families and communities on available health information and services.

In terms of challenges, the first thing is Africa needs to define health literacy in its context as opposed to developed countries. Through time health literacy has got two dimensions *the clinical* and *the public* health care system focused on curative and treatment aspect and specialized hospitals are highly prevalent. The clinical approach often involves a patient-provider interaction and is the focus of much of the health literacy efforts in high income countries. Whereas the *public health* perspective more importantly implemented in developing countries in community-based platforms and community education opportunities along with health literacy. An illustration for this could be health literacy in developed countries might be symbolized a person with computer who is navigating his/her treatment option to negotiate with his physician whereas in Africa this might be completely different – could be working in - limited basic and functional literacy.

#### **Conclusion**

Therefore, analysis of health literacy opportunities and challenges in Africa is essential. This will give deep insights for evidence-based and contextualized interventions. The health literacy practitioners in the region should come together to brainstorm, discuss, and reach consensus on the future of health literacy in Africa. Simultaneously, making health literacy a priority agenda for health ministers in the region through advocacy & available platforms is also paramount.

*Keywords: Africa, Opportunities, challenges*



Topic: Health literacy policy and advocacy  
Abstract No: 13312

## The development and implementation of a National Health Literacy Action Plan in Taiwan- Where we are now

Ying-Wei Wang<sup>\*1 2</sup> ; Mei-Chuan Chang<sup>1</sup> ; Shu-Li Chia<sup>2</sup> ; Mi-Hsiu Wei<sup>3</sup> ; Jyh-Gang Hsieh<sup>1 2</sup> ; Chiung-Dan Chang<sup>2</sup>

<sup>1</sup>Department of Family Medicine/ Hualien Tzu Chi Hospital/ Taiwan (台灣), <sup>2</sup>Department of Medicine/ Tzu Chi University/ Taiwan (台灣), <sup>1</sup>Department of Nursing/ Tzu Chi University/ Taiwan (台灣) <sup>2</sup>Ministry of Health and Welfare/ Health Promotion Administration/ Taiwan (台灣) <sup>3</sup>Department of Public Health/ Tzu Chi University/ Taiwan (台灣)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

The prevalence of low health literacy across the globe is a growing concern for policymakers and healthcare providers. Improving health literacy has been identified critical pillar to empower individual citizens and enables their engagement in collective health promotion action. This project reports the process in Taiwan's Health Promotion Administration (HPA) to develop a tangible and realistic national health literacy action plan, identifying the challenges and next steps for implementation.

#### **Methods**

The structure of the Action Plan was outlined from an analysis of existing international health literacy action plans. Based on the composition of Taiwan's system, three key departments (health, education and culture) were identified as the integral government authorities to implement and oversee health literacy activities. With the HPA serving as the lead coordinator, a series of stakeholder consultations were prepared to shape policy priorities and develop evidence-based strategies. Experts were selected based their academic backgrounds, professions and sectors to provide a comprehensive overview of opinions and ideas.

#### **Results**

Five key points (evidence, awareness/capabilities, infrastructure, practice and partnership) were initially identified and organized into 108 indicators. The Delphi method was used to reach consensus about what to include in the action plan during inter-departmental expert meetings. In the first draft, a total of seven key pillars were included in the framework with 29 action items. Through a number of seminars and workshops, the Action Plan was disseminated to relevant government departments and stakeholders. The implementation process is being systematically planned, focused on a wide dissemination strategy to assist with practical action.

#### **Conclusions**

Through the efforts of the government, health literacy has become an important national policy in Taiwan. The experience to develop the National Health Literacy Action Plan highlights the importance of collaborative, co-creation of policymaking and policy coherence to coordinate and align activities of different stakeholders in different sector. This approach has been feasible for Taiwan and provides the guidance for healthcare providers and receivers to contribute towards a more health-literate society.

#### **Funding**

This work was funded by the Health Promotion Administration, Ministry of Health and Welfare, Taiwan, R.O.C.

*Keywords: health literacy, action plan, health policy, partnership*

## Oral Presentation: Session Oral 7 Health literacy, information technology and media Oct. 4th (Mon.) 16:30-18:00

Topic: Digital and technological health literacy  
Abstract No: 13343

### “It depends on how you absorb what you read”: ways public health system users perceive health-related information online

Livia Fernandes<sup>1</sup>; Karime Andrade Mescouto<sup>2</sup>; Bruno Saragiotto<sup>1 3</sup>

<sup>1</sup>Physiotherapy/ Universidade Cidade de São Paulo (UNICID)/ Brazil (Brasil), <sup>2</sup>University of Queensland/ University of Queensland/ Australia, <sup>3</sup>School of Public Health/ Institute for Musculoskeletal Health/ Australia

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** The internet is an attractive source of information with enormous amount of data and easy access. Its use for health-related purposes has increased in the past years; however, the overabundance of information led the world to a health infodemic. The COVID-19 outbreak has aggravated it with “fake news” and misinformation polarizing the public debate. Currently, little is known with regards digital health literacy levels and the behavior of users when using the internet to answer health questions, especially for low-mid income countries where socioeconomic and health inequities are substantial.

**Objectives:** To investigate enablers and barriers perceived by users of the Brazilian public health system when seeking for health-related information on the internet. **Methods:** We used a qualitative interview design with 30 users of a Brazilian public healthcare facility. The following topics were addressed in the interview guide: what is considered health-related information, from where the information comes from, how the information is accessed (devices and vocabulary used), how the information is understood, to what extent the information can be trusted, and how the information from the internet appears in discussions with healthcare practitioners. Interviews were recorded and transcribed verbatim. Data analysis was performed using an inductive thematic analysis. **Results:** Preliminary analysis showed that reasons for seeking information online included the need for clarification after a consultation with health professional and/or sudden onset/flare up of symptoms. Information acquired online by users is not always shared during health encounters, mainly due to short time and lack of acceptance from healthcare professionals. Users usually search using key words (e.g. name of a specific medication/condition) or questions concerning users' symptoms/condition (e.g. what is the course of stroke?). The extent to which users believe in the information is linked to the frequency they find similar information across different sources and also the presence of favorable commentaries that seems to be written by real people. Videos recorded by accredited health professionals and reading materials with figures were identified as promoters of better understanding. **Conclusion:** Confirmation bias can misguide searches for health-related information online. Healthcare professionals remain the reference for the provision of health-related information.

*Keywords: digital health literacy; internet; health information; education; behavior*

Topic: Health literacy and the media  
Abstract No: 13463

## **Health literacy and Health information seeking and COVID-19: a web analysis**

Walter De Caro<sup>2</sup>

<sup>2</sup>CNAI/ Italian National Nursing Association/ Italy (Italia)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

During Covid-19, there were a large use of web social media to comment and spread information from the widest sources. This excess in amount of information circulating make difficult to orientate individuals and communities on a given topic due to the difficulty of identifying reliable sources. Using text mining analysis it is possible to identify what drives public conversation in terms of health information seeking and impact of Covid-19.

#### Methods

Public perception during emergencies is traditionally measured with surveys. However, to have a global sight of the pandemia and importance of comprehension of health information, an analysis on web search, social media and trends topic over time represents a tool which gives a crucial picture of reality. The study aimed to conduct a specific text mining analysis using analytics tools of search engine over time of pandemic connected to health literacy and health information seeking.

#### Results

During pandemic years, over 10% of health information were identified as misinformation. Public health specialist and virologists and popular magazine online and groups represent the most popular sources in comparison to the official government and health agencies.

Text mining using a number of analytics tools as well as a content analysis and network analysis for demonstrate that participation on social media can potentially have an effect on building public position in term of social support.

#### Conclusions

This study confirms that social media and web represent the more important area of development in public health arena. The analysis clearly show that fake news and misinformation are very high and viral and it's difficult change the image and the credibility of information. There are necessity of building a different framework in order to study this challenging issue.

*Keywords: Covid 19, social media, text mining.*



Topic: Health literacy interventions and behavior change  
Abstract No: 13452

## Use of Facebook page by a Local Government Unit in health communication during the COVID-19 pandemic

Ryan Guinaran<sup>\*1</sup> ; Arnel Billy Lim<sup>\*1</sup>  
<sup>1</sup>Indigenous Health/ DITENG Inc./ Philippines

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The utilization of social media pages by Local Government Units (LGU) during the COVID-19 pandemic has not been extensively studied. This case study of one municipal LGU in the Philippines aimed to characterize the content of its official Facebook page from February to July 2020. It was on January 30, 2020 that the first COVID-19 case in the Philippines was identified. Using content analysis, the researchers determined the type of posts frequently shown on the LGU's social media page.

Out of a total of 240 posts on the case LGU Facebook page over a six-month period, 157 (65%) posts were about COVID-19. Of these 157 posts, 150 (96%) were categorized under information provision (enjoining people to adhere to minimum public health standards, health literacy on COVID-19 such as information about the virus, policies issued by the government, meetings being held, and statistical updates on cases being reported). The few remaining posts were classified either as input-seeking (asking for feedback from community, donations, and contributions), online/offline interaction (community assembly), or symbolic presentations (highlighting recovery of patients or praising front-liners). Of the 150 posts classified under information provision, 102 (69%) were about public service announcements specifically about recommendations on adopting behavior for public health, safety, and well-being and statistical updates on the occurrence of local cases. The posts about the introduction of LGU lockdowns received the most reacts, as well as the most shares and comments. The sources commonly cited by the municipal LGU on their Facebook posts were the provincial Public Information Office, the provincial Governor's Office, and the regional Philippine Information Agency.

The local government unit recognizes the use of social media pages as vital in health literacy and communication, especially in a pandemic. It has been greatly employed in providing information on health education and promotion and reporting the number of COVID-19 cases. It is recommended that the social media page be used in a more interactive and innovative approach to engage local communities rather than be focused solely on information provision. Local government units may designate or employ social media managers for effective and efficient health communication.

*Keywords: Social media; local government unit; health literacy; pandemic*

Topic: Improving Health Literacy Using Information Technology  
Abstract No: 13386

## “Neuroteca Digital”: a contribute to health literacy

Sérgio Abrunheiro<sup>1</sup> ; Ana Rita Simões Martins<sup>1</sup> ; Carlos Manuel Santos Fernandes<sup>1</sup> ; Berta Maria Jesus Augusto<sup>1</sup> ; Cristina Vaz de Almeida<sup>2</sup>

<sup>1</sup>Neurologia A/ Centro Hospitalar e Universitário de Coimbra/ Portugal, <sup>2</sup>Advance Training/ Instituto Universitário de Ciências Psicológicas, Sociais e da Vida/ Portugal

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Neurological disease creates dependence on self-care, requiring changes in the individual's lifestyle. The acquisition of skills (knowledge) for an effective self-management of the disease is essential, and it involves the family/informal caregivers and healthcare professionals. For training, digital communication has shown positive ground.

The Department of Neurology A at the Coimbra University Hospital developed the “*Neuroteca Digital*”, a digital repository of information about risk factors for neurological disease and strategies for self-care, including videos, e-books, manuals, and photos.

The goal is to promote health literacy (access, understanding and use of information) for patients, informal caregivers, and healthcare professionals in the Neurology field, through using digital communication resources.

At the start of the project, brainstorming sessions were held with the multidisciplinary team to search for content (from credible sources). The content of the “*Neuroteca Digital*” aims to improve health literacy through 1) clear, easily accessible content; 2) good understanding of the content and 3) proper use. Healthcare professionals were trained on the project, emphasizing the importance of assertiveness, clarity, and positivity of the information (ACP Model).

The digital resources used to spread the information - tablet or computer - allowed a wide and targeted use with the patient, the informal caregiver and health professionals.

The implementation of the project (in the fourth quarter of 2019) showed a high acceptance from users, which was confirmed by the healthcare team, through observation and direct dialogue among professionals, and through the comments of patients and their families, which increased after April 2020. Healthcare professionals showed satisfaction by using this resource due to 1) easy access; 2) multiple information, adequate to the needs of the neurological patient; 3) informative support, which clarifies and standardizes the message.

Patients and informal caregivers equally reported satisfaction owing to 1) the diversity and clarity of the content; 2) adequacy to their needs, verbalizing: “that video help me understanding the harm of tobacco...”, “I understand now what you meant earlier”.

The “*Neuroteca Digital*” has proved to be extremely useful in promoting health literacy, and it is expected to be inserted on a website to promote wider dissemination.

*Keywords: health literacy; communication; caregivers; digital information*



Topic: Improving Health Literacy Using Information Technology  
Abstract No: 13465

## Can interventions targeting Health Literacy help preserve surgical productivity and costs-reduction during a pandemic?

Martin Vesterby<sup>1</sup> ; Anders Nejsum<sup>1</sup> ; Mette Sondrup Bøegh<sup>1</sup> ; Elisabeth Solvik Lundholm<sup>1</sup>  
<sup>1</sup>Research and Development/ Visikon ApS/ Denmark (Danmark)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Health Literacy has long been a challenge for patients, with unmeasured or unregistered extra cost for the hospital, caused by unprepared and poorly informed patients. Insufficient understanding of important information results in lack of compliance to tasks and self-care.

The Covid Pandemic has furthermore changed the way we can inform and “educate” patients. Patient-seminars and consultations are canceled or converted to calls.

Can the combination of technology and a radical approach to healthcare information, using narrative visual communication, help keep productivity high at the hospital? Also, during a pandemic?

My Treatment™ has shown that a visual language with animated narratives to educate the patient before, during, and after treatment can help release a number of resources, like reduce Length of Stay (LOS), patient contacts, patient visits, cancellations, i.a.

Data from the largest center for planned orthopedic procedures in Denmark, evaluated patients receiving Total Hip Replacement (THR), Total Knee Replacement (TKR), or surgery in the Lower Back (LBS) in the last quarter of 2019 compared to last quarter of 2020. All patients were offered access to My Treatment™ and a call as a substitution for patient seminars at the hospital. The goal was to keep a high level of specific information to heighten preparedness and empowerment.

Evaluation of same-day procedures (SDP) from more than 1000 operations.

In 2020, **42 percent** of patients receiving THR were SDP compared to **26 percent** in 2019.

In 2020, **35 percent** of patients receiving TKR were SDP compared to **25 percent** in 2019.

In 2020, **59 percent** of patients receiving LBS were SDP compared to **37 percent** in 2019.

Engagement with My Treatment™ increased from 2019 to 2020 by more than 100% on specific topics.

The adoption of health technology with a radical focus on Health Literacy has been motivated by the ongoing pandemic. If this momentum and the use of health technology to support patients and lower healthcare costs will continue after the pandemic is unknown. More research is needed on the use of health technology with a visual language for healthcare information to lower the cost of surgical procedures.

*Keywords: visual;digital;communication;lower;costs*



Topic: Improving Health Literacy Using Information Technology  
Abstract No: 13336

## Making a MOOC on health literacy even more open.

Eulàlia Hernández Encuentra<sup>1</sup>

<sup>1</sup>Department of Psychology and Education/ Universitat Oberta de Catalunya/ Spain (España)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Background. Health literacy (HL) is considered by WHO as one of the three pillars of health promotion and is positively related to health. HL is a dynamic concept that is established in the relationship between citizenship and the resources available in the territory (it is not only linked to individual competences), and that evolves throughout the lifespan. Interdisciplinary in nature, HL needs to be carried out on an ongoing basis.

We aimed at designing and running a short course on HL to make available health education and promotion projects and resources visible, and to generate a framework for discussion and collaboration on HL.

Methods. A MOOC on HL across the lifespan was designed and delivered in Spanish. We used a specific online educational platform (to present the materials) and Twitter (for discussion and sharing). Discussion on Twitter was actively moderated (January to March 2020) through a specific account @MoocSaludUOCX by health education professionals in the hospital setting and used a specific hashtag #alfabeSaludUOC.

Results. 1226 people registered and 51.4% of them accessed the first module on general aspects of HL. In the end, 256 people participated in all the proposed discussion activities (76.5% women; 78% between 30 and 59 years old) and 386 people regularly followed the @moocSaludUOCX account.

Participants shared about 120 new items related to HL (scientific articles, apps, clinical projects, etc.) and deeply discussed 5 specific topics. A Twitter list was created at the end of the period. HL was surveyed by using the HLS-EU-Q16. 255 participants responded to the questionnaire pre-MOOC (41%, sufficient HL; 24.45% problematic HL; and 31.37% inadequate HL). Measures post-MOOC (n=77) showed small improvements.

Conclusions. The open discussion of the course content on Twitter allowed the participation of people who were not enrolled in the MOOC, some of whom were previously followers of the MOOC's authors, their affiliating institution (eHealth Center of the Universitat Oberta de Catalunya), or the facilitators.

The challenge is to maintain a flow of interest and collaboration on the topic as a community of practice. Twitter can be a useful tool for this.

*Keywords: MOOC; Health literacy; Twitter; Community of practice*

Topic: Health literacy and public health promotion  
Abstract No: 13267

## Improving health literacy of general population towards autistic persons by using virtual reality

Alena Valderrama<sup>\*1 4</sup> ; Ioulia Koniou

<sup>1</sup>Département de médecine sociale et préventive, / CHU Sainte-Justine, Research center of CHU Sainte-Justine, École de santé publique de l'Université de Montréal/ Canada <sup>4</sup>Médecine sociale et préventive/ École de santé publique de l'Université de Montréal/ Canada

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The stigmatization of autism is becoming an important determinant of mental health and wellbeing for autistic people and their families (Botha et coll., 2020). The stigmatization results in very little information on autism in the general population. Also, the stigmatization towards autistic people can be a barrier to the access to services, employment and their inclusion into society. The heterogeneous nature of autism and the invisibility of the disability makes public awareness more difficult. Research shows that efficient information and opportunities for exchanges with autistic people can improve our knowledge and our attitudes towards them. The health literacy framework (Sørensen et coll., 2013) can offer a way of providing, or at least offer understanding of, such information, and to evaluate and be used for better communication with autistic people, facilitate their acceptance and societal inclusion. In order to achieve this, our team has developed an innovated virtual reality (VR) tool in collaboration with autistic people. We based it on two theoretical models, the patient-as-partner approach (Pomey et coll., 2015) and the participative research with autistic people (Nicolaidis et coll., 2019). This tool represents the autistic perspective based on personal stories recommended by the autistic team members themselves. They also acted as protagonist in the recording of the tool.

In this VR capsule, the user is guided to put themselves in the autistic persons shoes and to be immerse into the autistic person's virtual environment and to live their everyday reality. This VR capsule is intended to increase knowledge of autism in the general population. To sensitize them by giving the opportunity to experience the same social and sensorial situations as an autistic person (hyper-sensory, detail oriented, communicational issues, decoding emotions, etc.). The goal is to use this information to reduce the myths and prejudices, to better understand autistic people, to accept them more, and to better communicate with them. A randomized clinical trial is currently in place in order to evaluate the efficiency of this tool in improving knowledge in autism.

*Keywords: autism, health literacy, virtual reality, participative research, stigma*



**Oral Presentation: Session Oral 8, Oct. 4th (Mon.) 16:30-18:00**

Topic: Health literacy interventions and behavior change  
Abstract No: 13295

**Co-Creation and Prototyping of An Intervention Focusing On Health Literacy In Management of Malaria At Community-Level In Ghana**

Millicent Addai Boateng<sup>1 2</sup> ; Peter Agyei-Baffour; Ofeibea Asare; Benjamin Prempeh; Ulrika Enemark  
<sup>1</sup>Public Health/ Aarhus University/ Denmark (Denmark), <sup>2</sup>Public Health/ Kwame Nkrumah University of Science and Technology/ Ghana (Gaana)

**Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Co-creation and prototyping of an intervention focusing on health literacy in management of malaria at community-level in Ghana.**

Millicent Addai Boateng, Aarhus University; Peter Agyei-Baffour, Kwame Nkrumah University of Science and Technology College of Health Sciences; Sanne Angel, Aarhus University, Institute of Public Health; Ofeibea Asare, Kwame Nkrumah University of Science and Technology, College of Health Sciences; Benjamin Prempeh, Kwame Nkrumah University of Science and Technology, College of Arts and Built Environment; Ulrika Enemark, Aarhus University, Institute of Public Health.

**Introduction:** Collaborating with end-users to develop interventions tailored to fit unique circumstances is proposed to improve relevance and effectiveness of an intervention. This study used a local need driven approach to develop a health literacy intervention for caregivers in Ghana concerning management of malaria in children under five years.

**Method:** A three-phase framework including: 1) needs assessment based on data from questionnaires, focus groups, individual interviews and observations, 2) Co-creation of a board game and brochures for health education at Child Welfare Clinics to address needs in health literacy concerning malaria and 3) Development of a prototype of the game, brochures as well as determining user feasibility.

**Findings:** The needs assessment resulted in a useful intervention to bridge the gaps in health literacy among caregivers. Co-creation of the materials and prototyping yielded a varying sense of ownership among stakeholders. End-users' engagement and participation in developing the intervention resulted in a high interest and adherence to interventions. However, high attrition rates of health workers and caregivers' inconsistent use of the Child Welfare Clinics challenged sustainability of this intervention.

**Conclusion:** The interactive nature of this approach to health delivery interventions resulted in a better caregiver-health provider relationship and a sense of recognition of a more participatory approach to health delivery. A stronger buy-in at the top-level of health management and scaling it out into communities would improve sustainability and reach a larger audience.

*Keywords: Health literacy; Intervention; Co-creation; Malaria; Ghana*



Topic: Health literacy interventions and behavior change  
Abstract No: 13443

## Supported self-management for all with musculoskeletal pain: an inclusive approach to intervention development

Joanne Protheroe<sup>1</sup> ; Gillian Rowlands<sup>2</sup> ; Opeyemi Babatunde<sup>1</sup> ; Noureen Shivji<sup>1</sup> ; Nadia Corp<sup>1</sup> ; Bernadette Bartlam<sup>1</sup> ; Danielle Van der Windt<sup>1</sup> ; Martyn Lewis<sup>1</sup> ; Emma Healey<sup>1</sup>

<sup>1</sup>Primary Care Centre Versus Arthritis / Keele University/ United Kingdom, <sup>2</sup>Public Health Sciences Institute/ Newcastle University / United Kingdom

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **The problem:**

1. Musculoskeletal (MSK) conditions are a major cause of ill-health and disability worldwide, more prevalent in more deprived groups, with substantial impacts on quality of life and healthcare resource use.
2. The mainstay of UK National Health Service treatment for MSK conditions is supported self-management. Evidence for effectiveness is limited because intervention development has overlooked low health literacy (HL) (affecting 43-61% of the English population).
3. Patients with low HL have higher prevalence of osteoarthritis, lower physical function, higher pain intensity and lower pain-related self-efficacy including difficulties in managing medication, compared to patients with adequate HL, often struggling to understand key messages of self-management.

#### **The approach**

Mixed methods concurrent-sequential study design with four work-packages (WPs). WP1: secondary analysis existing data to identify potential targets (mediators, moderators and sub-groups) for intervention. WP2: evidence synthesis to assess likely effective components of supported self-management interventions taking into account varying levels of HL. WP3: views of community members and health care professionals (HCPs) on essential components. WP4: findings from WPs 1,2,3 synthesised to produce evidence tables: online modified Delphi approach with stakeholder group of HCPs and third-sector collaborators ranked importance of evidence presented to reach consensus on most important components of a logic model.

**Findings:** Eight dimensions to the logic model were identified, each with their own domains: the problem, inputs, determinants, training and education (HCPs), intervention components, delivery modes, outputs and health outcomes. Determinants identified include: self-efficacy, illness perceptions, and an understanding of the MSK condition. Components identified included information in diverse formats (e.g. audio, video and written materials) offered at specific times; action planning and goal setting; visual demonstrations of exercises. Support should be multi-professional using a combination of delivery modes including verbal, written and audio-visual.

**Conclusions:** This research has developed a patient-centred model for a multi-disciplinary, multi-modal approach to supported self-management for patients with musculoskeletal pain and varying levels of health literacy. The model is evidence-based and acceptable to both patients and HCPs, with potential for significant impact on the management of musculoskeletal pain and for improving patient health outcomes. Further work is needed to establish its efficacy.

*Keywords: Musculoskeletal Health; Health Literacy; Supported Self-Management; Intervention Design; logic model*



Topic: Health literacy interventions and behavior change  
Abstract No: 13387

## A tool to health literacy in MS patients and caregivers

Berta Maria Jesus Augusto<sup>1</sup> ; Isabel Cristina Gonçalves Ribeiro<sup>1</sup> ; Liliana Escada Ribeiro<sup>1</sup> ; Ana Matilde Sousa da Costa Cabral<sup>2</sup> ; Project “Percurso na EM: Olhar Pensar e Agir na Esclerose Múltipla”, which was built in association Novartis  
<sup>1</sup>Neurologia/ Centro Hospitalar e Universitário de Coimbra/ Portugal, <sup>2</sup>Consulta Externa/ Hospital Beatriz Ângelo/ Portugal

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The development of health educational programs and patient self-care allows the growth of health literacy and a conscious decision-making by the patients.

Since MS is a chronic, progressive and disabling disease, the health literacy is a key factor to empower the patients and the family/care-giver, so they can manage the disease and adopt the best behaviors to become independent and improve their QoL.

To build Learning Maps that improve the health literacy among people living with MS (patient or family) and implement the maps in group sessions.

The authors draw the project with a cross-function team, then conducted a bibliographic research followed by brainstorming meeting evolving the team members. By this, the Learning Maps were created together with the support material. Finally, the Maps were tested in different moments, first with nurse students and then in 4 moments with patients with MS.

There is a portfolio of 4 Learning Maps with different subjects – disease management, healthy lifestyle, symptoms management and therapeutical management – each one has a user handbook, activity cards and teaching files with information to help the facilitators.

We gathered different feedbacks. The nurses said things like “They seem light, attractive and interactive, helping to think about the subjects and get knowledge about it”. The patients considered that “it help us to easily share our own experience, to clarify any wrong ideas we have and get more information about MS”, “it encourage the talks around different subjects in an appealing way”, “it makes easier to share our feelings and fears” and “teach us how important it is to be aware of the disease progression”.

All the findings are aligned with the available scientific literature, which points out the benefits of the learning strategies focused on the active participation, reflection and discussion of the young adult, on matters that interest them.

This project already has the International Certificate by the *International Organization of Multiple Sclerosis Nurses*, is ongoing in 7 hospitals.

The Learning Maps are a usefull tool to promote the Health Literacy and in the near future they will be available for digital meetings.

*Keywords: health literacy; multiple-sclerosis; learning maps*



Topic: Health literacy interventions and behavior change  
Abstract No: 13274

## Promoting health literacy in older adults – Scaling up a pilot-tested intervention in Germany

Elisabeth Foitzik<sup>1</sup> ; Vanessa Kaiser<sup>1</sup> ; Holger Hassel<sup>1</sup>

<sup>1</sup>Institute for Applied Health Sciences/ Coburg University of Applied Sciences and Arts/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### Background

An inadequate level of health literacy (HL) and social isolation are risk factors especially for older adults. A community-based HL intervention aiming to counteract both risk factors was developed and pilot tested. For the intervention “GeWinn”, self-reliant working groups of older adults with peer-moderators were installed. The 53-week program resulted in improved HL and was well-accepted. In order to scale up the intervention, the concept of “GeWinn” was optimized and a cooperation as well as financial funding with a large German health insurance company, AOK Bayern, was achieved. To successfully implement and enlarge the intervention in Bavaria, a 5-step scaling up program was developed and tested.

#### Description of Methods

A webinar was performed to inform regional multipliers of the health insurance about the intervention as well as instruct them to reach out to communal stakeholders. A 5-step scaling up program was implemented with each participating municipality concerning consultation, information events, co-operative planning, networking and kick-off meetings for the target group. To substitute in-person meetings during the pandemic, virtual conferences were held to promote important planning steps.

#### Results

In total, 40 multipliers participated in the webinar. Eight of the 71 Bavarian districts were acquired and participated in the intervention with 2-4 municipalities each. The regional decision makers and stakeholders tended to need more time to implement the program. Frequent contacting to ensure general willingness for participation and creating a network of local stakeholders seem to be essential. The participating municipalities differ a lot in terms of structure and community readiness. Therefore, the scaling up methods were adapted in its design and frequency for each region.

#### Conclusions

Close cooperation with participating municipalities promotes an effective recruitment of local partners and program implementation. To support the districts in implementing the program, the scaling up methods should be provided in small steps. At the intervention’s end, there will be a meeting with municipal stakeholders to discuss tailored methods for sustainable actions to consolidate regional structures. Therefore, the implementation of the intervention will not only support individual’s HL but has the potential to promote communities in their municipal health promotion for older adults.

*Keywords: community; health literacy; older adults; scaling up; intervention*

Topic: Health literacy policy and advocacy  
Abstract No: 13450

## Health Literacy related to Deceased Organ Donation: profiling supporters and registrants

Maria Theodosopoulou<sup>1</sup> ; Frank Dor<sup>2</sup> ; Daniel Casanova<sup>3</sup> ; Georgios Baskozos<sup>4</sup> ; Zoe-Athena Papalois<sup>5</sup> ; Lisa Aufegger<sup>6</sup> ;  
Vassilios Papalois<sup>6</sup>

<sup>1</sup>*Surgery and Cancer/ Imperial College London/ United Kingdom*, <sup>2</sup>*Surgery and Cancer/ Imperial College London/ United Kingdom*, <sup>3</sup>*Department of Transplantation Surgery/ University of Cantabria/ Spain (España)*, <sup>4</sup>*Nuffield Department of Clinical Neurosciences/ Oxford University/ United Kingdom*, <sup>5</sup>*Medical School/ Kings College/ United Kingdom*, <sup>6</sup>*Surgery and Cancer/ Imperial College London/ United Kingdom*

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background:**

Organ donation shortage is a persistent challenge affecting many countries. The demand for transplants and organs outweighs the supply, and as a result the waiting lists of patients are long and for some a donor and a matching organ may never become available. This discrepancy can be the result of various factors, such as family refusal to consent to organ donation, organisational, legislative, cultural issues, limited public awareness of Deceased Organ Donation (DOD).

#### **Methods:**

An empirical and observational study in London (UK), Rotterdam (NL) and Santander (SP) was designed to examine the knowledge and attitudes of medical students, renal patients and hospital administrative staff. In the three countries, 1,111 took part in the survey and 49 participated in focus group discussions.

#### **Results:**

Data from the questionnaire and focus group discussions showed that support towards DOD did not necessarily translate to registration. It also showed that not only the profile of supporters of DOD varies from that of non-supporters, but also the profile of registrants and non-registrants. The respondents had little knowledge about DOD processes but awareness about the organ shortage and waiting lists.

#### **Discussion:**

There is a background of awareness about DOD, but the public seems to underestimate their own participation in the process. Re-directing the public's attention to the issue could benefit by focusing on culturally embedding the messages and increasing communication about organ donation within families.

*Keywords: Deceased Organ Donation, Awareness, Health Campaigns*



## Workshop 2, Oct. 4th (Mon.) 16:30-18:00

Topic: Health literacy and older adults  
Abstract No: 13468

### Developing Health Literate Digital Tools With and For Low Health Literacy

Lars Münter<sup>\*1</sup>

*<sup>1</sup>International Projects Unit/ Danish Committee for Health Education/ Denmark (Danmark)*

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The rapid digitalization of healthcare risks an increase in health disparities. The adequate use of eHealth solutions is not trivial for all citizens, as individuals must have a combination of, among others, health literacy, traditional literacy and digital literacy. It is estimated that approximately 60% of the people above 66 years old in Europe have limited health literacy. The inadequate- or no-use of eHealth solutions by people with low eHealth literacy is alarming as this underprivileged group often has lower health outcomes, such as higher prevalence of chronic diseases.

In the workshop, DCHE will discuss the findings and implications of the upcoming Got-IT toolkit (created by AAL project with Dutch, German, Austrian, and Danish participants<sup>9</sup> that supports the design of understandable, actionable and inspiring eHealth applications for older adults with low eHealth literacy.

The toolkit is unique, as it consists of an openly available, dynamic and living toolkit that will be extended with tools, best practices, and use cases in the future by a community of designers and developers. Got-IT has the potential to create new markets, by supporting the development of eHealth solutions that are usable and accessible to people in the whole eHealth literacy spectrum. eHealth solutions developed with the Got-IT toolkit will improve health- and digital literacy, closing the health disparities gap and digital divide, and thus reducing the costs caused by health inequalities and promoting social innovation. Additionally, Got-IT will promote the social inclusion of a group that is often neglected in the development of (health) technology – older adults with low eHealth literacy. For the caregivers of the older adults (secondary users), Got-IT will help improve quality of the care provided by broadening the range of eHealth tools that they can use with the older adults they care for.

However, the toolkit will only change the existing environment if used by developers and trusted by stakeholders and users; The workshop will explore this duality and dilemma in bridging highly digital literate developers in co-creating with users with low digital literacy.

**Symposium 4, Oct. 4th (Mon.) 16:30-18:00**

Topic: Health literacy and patient safety  
Abstract No: 13442

**Analysis of selected healthcare mobile applications from the point of view of enhancing health literacy for the sake of patient safety**

Anna Gawronska<sup>\*1</sup> ; Slawek Blotny<sup>\*2</sup>

<sup>1</sup>*Business Process Center of Excellence/ Lukasiewicz - Institute of Logistics and Warehousing/ Poland (Polska)*, <sup>2</sup>*Simply Better/ Simply Better/ Poland (Polska)*

**Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Development of modern technologies and mobile applications has made information a common good. The development of mobile applications also resulted in the rapid development of various types of supporting tools both business processes, as well as everyday life. Among available solutions, applications for the sake of the healthcare sector constitute a meaningful amount. The data presented in the so-called The Green Paper on Mobile Health published in 2014 by the European Commission presents trends in use of applications by patients and illustrate how mHealth tools contribute to shifting the role of patients from rather passive to more active. Among all available healthcare applications, many of them provide patients with information that is particularly important from safety perspective, e.g. composition of a medicinal product, possible drug interactions or potential adverse drug events. Most of the applications, out of this group, provide the user with information that results in specific actions of a given user. If the user is provided with incorrect data or data that is difficult to understand for a non-professional his or her safety is at danger. Therefore, data quality and data presentation is extremely important from the point of view of health literacy, being understood as the degree to which an individual has the capacity to obtain, communicate, process, and understand basic health information and services in order to make appropriate health decisions. The aim of the presentation is to present the results of an analysis focused on selected functionalities of healthcare mobile applications available in the Google Play Store available in English. The analysis was focused on those functionalities that has biggest influence on health literacy for the sake of patient safety. Moreover, the research resulted also in formulation of most important recommendations for the further development of mobile applications for the broadly understood health literacy, especially from the point of view of medicinal products consumption safety.

*Keywords: functional analysis; mobile application; patient safety; health literacy*

## Symposium 5, Oct. 4th (Mon.) 16:30-18:00

Topic: Health literacy and COVID-19  
Abstract No: 13354

### **Main Findings of the COVID-HL Network: A Global Population-based Survey on Digital Health Literacy in University Students**

Orkan Okan<sup>\*1</sup> ; Kevin Dadaczynski<sup>\*\*1</sup> ; Marjorita Sormunen <sup>\*1</sup> ; Helena Rafaela Viera Rosario <sup>\*2</sup> ; Tin Tin Su<sup>\*3</sup> ; Tetine Sentell<sup>\*4</sup> ; Katharina Rathmann<sup>1</sup> ; Heeran Chun<sup>5</sup> ; Melanie Messer<sup>6</sup>

<sup>1</sup>Interdisciplinary Centre for Health Literacy Research/ Bielefeld University/ Germany (Deutschland), <sup>1</sup>Public Health Centre Fulda/ Fulda University of Applied Sciences/ Germany (Deutschland), <sup>1</sup>Faculty of Health Sciences, Institute of Public Health and Clinical Nutrition/ University of Eastern Finland/ Finland (Suomi), <sup>2</sup>School of Nursing/ University of Minho/ Portugal, <sup>3</sup>School of Medicine and Health Sciences/ Monash University Malaysia/ Malaysia, <sup>4</sup>Office of Public Health Studies/ University of Hawai'i at Mānoa/ United States <sup>5</sup>Department of Health Administration/ Jungwon University/ Korea, Rep. (대한민국) <sup>6</sup> Faculty I, Nursing Science/ Trier University/ Germany (Deutschland)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### **Objectives**

The COVID Health Literacy Network (COVID-HL) is an international research community of partners from more than 50 different countries, and was formed in March 2020. COVID-HL seeks to understand digital health literacy (DHL) concerning COVID-19 at a global level. Using shared data collection instruments based on a web-based survey, COVID-HL members have collected data from over 70,000 students globally. This was the first global population-based survey on DHL. The findings vary across countries, but generally students have high DHL levels. In contrast, and to a great deal of surprise, they have problems evaluating the reliability of online health information about COVID-19 and lack the ability to determine whether online information is attached to commercial interest.

This symposium will (1) give an overview of COVID-HL, (2) illustrate the critical role of DHL for health promotion in the context of the COVID-19 pandemic and infodemic and (3) present major findings from different countries in Asia, Europe and North America. This will be followed by a discussion and Q&A with audience members.

##### **Activities**

This symposium comprises six presentations from eight countries: Germany, Portugal, Finland, Malaysia, Philippines, China, South Korea and USA. The session coordinator will briefly introduce the COVID-HL Network. Each presenter will give a presentation (5-7 minutes) and the results will be put into context. The second half of the session will be dedicated to an open and audience-driven discussion about health literacy as a response mechanism to pandemic outbreaks and how it is relevant to inform protective and healthy behaviours.

##### **Conclusion**

DHL in students and the capacity of institutions to maintain and promote health are timely, critical, and applicable to the whole world, especially during the pandemic. Reliable and trustworthy health information is needed for students and the general population to tackle present and future disease outbreaks and strengthen health resources. Knowledge transfer must bridge the know-do gap, deliver tailored, easy-to-understand and practical information. Insights from these studies will inspire both national needs and international challenges, providing strategies to combat the pandemic and inform future digital health research and policy.

*Keywords: Digital Health Literacy, International Survey, Cross Country Comparision, COVID-19, Information Behaviour, Media*



## Symposium 3, Oct. 4th (Mon.) 21:00-22:00

Topic: Digital and technological health literacy  
Abstract No: 13344

### Digital, health, and civic literacy: Pillars for equitable health futures

Brian Li Han Wong<sup>\*1</sup> ; Ilona Kickbusch<sup>\*1</sup> ; Sandra Cortesi<sup>\*\*1</sup> ; Iris Blom<sup>\*1</sup> ; Christopher Fabian<sup>1</sup> ; Vania Santoso<sup>\*1</sup> ; Sandar Linn<sup>\*1</sup>  
<sup>1</sup>Secretariat/ *The Lancet and Financial Times "Governing Health Futures 2030: Growing up in a digital world" Commission/ Switzerland (Schweiz)*

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Digital health literacy is essential for young people and other vulnerable groups to fully benefit from digital transformations in health, and to safely and successfully navigate digital environments. Adequate digital health literacy enables individuals to not only seek, find, understand, and appraise the reliability of health information and advice from electronic sources, but also apply the knowledge gained to addressing or solving health problems.<sup>1</sup> Alongside digital access, digital health literacy is gaining recognition as a determinant of health and well-being in its own right.<sup>2</sup>

Moreover, *The Lancet* and *Financial Times* Commission on Governing Health Futures 2030: Growing up in a digital world recommends that for young people to fully participate in and shape future digital transformations in health, they will require a combination of health, digital, and civic literacies. Integrated literacy and skills in all three areas are necessary for young people to adequately prepare for, and contribute to, a digitally-connected society and the future workforce. They are also essential for young people to effectively manage their personal data, and to negotiate risks inherent to life online which can have lasting effects on life offline.

In this symposium, the Governing Health Futures 2030 Commission will present the findings from its report (to be published in September 2021) and make the case for a whole-of-society effort to implement robust and large-scale programmes to build the digital, health, and civic literacy of children and young people. Additional discussants will present young people's perspectives on the kinds of knowledge and skills they need to effectively manage their health and thrive in an increasingly digital world; highlight the importance of building the digital health literacy of current and future health professionals; and share examples of programmes aimed at strengthening young people's digital, health, and civic literacies, particularly in low and middle-income countries. Summit participants will have the opportunity to interact with the presenters and discussants, share best practices, and contribute ideas on the steps required to strengthen literacy outcomes for young people everywhere.

*Keywords: digital health; equity; governance; literacy; children and young people*

**Oral Presentation: Session Oral 9 Health literacy and clinical healthcare settings (incl primary care)****Oct. 5th (Tue.) 10:00-12:30**

Topic: Health literacy and clinical healthcare settings (incl primary care)

Abstract No: 13269

**The provision of consumer health information for patients and their families in a large mental health and addictions hospital***Alexxa Abi-Jaoude<sup>\*1</sup> ; Andrew Johnson<sup>\*1</sup>**<sup>1</sup>Education/ Centre for Addiction and Mental Health/ Canada***Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

This presentation provides an overview of the methods and results from a staff survey (N=110) exploring the development and provision of consumer health information (CHI) at the Centre for Addiction and Mental Health (CAMH), Canada's largest speciality mental health hospital, in 2020. The survey assessed the current state of consumer health information across the organization to identify synergies and gaps to better address patient and family health literacy needs. We explored the types and topics of consumer health information that is most often provided; processes for developing and recommending CHI; barriers to using CHI resources; and opportunities for policy and practice changes for improving overall health literacy throughout CAMH. In addition to an overview of survey methods and results, this presentation will give participants an opportunity to explore best practices and recommendations for developing, recommending and delivering CHI to their patient population. We will explore topics such as co-creation, plain language, translation as well as policy and practice implications. This will be especially relevant for those who work in large complex organizations that are trying to meet the health literacy needs of diverse patient populations, especially those affected by mental illness and/or addictions.

*Keywords: consumer health information, mental health literacy, organizational health literacy*



Topic: Health literacy and clinical healthcare settings (incl primary care)  
Abstract No: 13390

## A systematic review of health literacy measures used in antenatal cohorts – what have we actually measured?

Casey Nottage<sup>1 2</sup> ; Jennie Louise<sup>1</sup> ; Sarah Van der Wal<sup>3</sup> ; Jodie Dodd<sup>1</sup>

<sup>1</sup>Robinson Research Institute/ University of Adelaide/ Australia, <sup>2</sup>Clinical Governance/ Bendigo Health/ Australia, <sup>3</sup>Obstetrics and Gynaecology/ Bendigo Health/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Pregnant women are given vast amounts of information and are required to navigate parts of the health system they may not have previously encountered. The aims of this study are to systematically identify, investigate and summarise the studies that have measured health literacy in antenatal cohorts and its relationship to maternal health outcomes, knowledge or behaviours; to describe the way the measures have been used; and investigate what domains of health literacy have been covered.

**Methods:** This review followed PRISMA guidelines. Peer-reviewed research articles indexed in MEDLINE, EMBASE and Web of Science were included if they: (1) described original research; (2) were full text articles published in a peer-reviewed journal; (3) measured health literacy using a previously validated health literacy or numeracy instrument not specific to any particular condition or health concern; (4) provided evidence on the relationship between health literacy and health outcomes or related knowledge or behaviours; (5) consisted of a study population that was limited to antenatal care; (6) published in English language

**Results:** 17 articles met eligibility criteria and were included. The majority were observational in design and used a single tool to provide a direct measure of health literacy. The most commonly used tools were the TOFHLA and the REALM (including derivatives). Not all studies used categorical measures or reported results in groups of 'inadequate' vs 'adequate' health literacy; in those that did, rates of 'inadequate' health literacy ranged from 9.1% to 72%. The majority only covered the domains of literacy and comprehension. The majority investigated associations with health literacy measures and women's knowledge, attitudes, beliefs and behaviours rather than clinical outcomes.

**Conclusions:** There is limited coverage of the full scope of health literacy domains especially the more advanced and social skills such as self-efficacy, critical appraisal and navigation. Future work on the health literacy of antenatal populations should avoid a narrowly defined notion of low literacy and instead seek to understand the strengths and weaknesses of those accessing antenatal care so that care provision can be adapted accordingly.

*Keywords: Health Literacy; Antenatal Care; Systematic Review; Measures; Women's Health*

Topic: Health literacy and COVID-19  
Abstract No: 13376

## Com@Rehab: a multidisciplinary, patient-centred approach to promoting health literacy and reducing inequality in health

Sara Carvalho<sup>1 2</sup> ; Raquel Silva<sup>1 3</sup> ; Rute Costa<sup>1</sup> ; Cláudia Quaresma<sup>4</sup> ; Micaela Fonseca<sup>4 5</sup> ; Carolina Silva<sup>1</sup> ; Ana Rita Londral<sup>6</sup>

<sup>1</sup>Universidade NOVA de Lisboa/ NOVA CLUNL, Centro de Linguística da Universidade NOVA de Lisboa/ Portugal,

<sup>2</sup>Universidade de Aveiro/ Centro de Línguas, Literaturas e Culturas da Universidade de Aveiro/ Portugal, <sup>3</sup>Nova Medical School/ VOH.CoLAB – Laboratório Colaborativo em Valor para a Saúde, Cedoc/ Portugal, <sup>4</sup>Faculdade de Ciências e Tecnologias, Universidade Nova de Lisboa/ LIBPhys-UNL, Laboratório de Instrumentação, Engenharia Biomédica e Física da Radiação/ Portugal, <sup>5</sup>Universidade Lusófona de Humanidades e Tecnologia/ HEI-Lab: Digital Human-Environment Interaction Lab - Centro de Investigação/ Portugal, <sup>6</sup>Nova Medical School/ CHRC, Comprehensive Health Research Centre, Cedoc/ Portugal

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Equity in Health is a pillar of the *Health Literacy for All* slogan. WHO states that “health inequities are differences in health status or in the distribution of health resources between different population groups”. Fighting inequalities in Health constitutes a societal challenge. Patient empowerment is also paramount, with citizen-centred healthcare systems tailored to patients’ needs and experiences, fostering autonomy in personal healthcare management.

The Com@Rehab project<sup>1</sup> gathers the expertise of Linguistics, Technology, and Medicine, contributing to the rehabilitation of post-COVID19 patients in home environments and promoting equity in Health. This research enhances a technological solution by introducing the Digital Communication Module (MCD Rehab), which bridges the communicative gap between patients, caregivers and healthcare providers while improving the patients’ interaction with the technology. MCD Rehab’s goal is to foster health and technological literacy.

Our methodology encompasses scenarios of real-life activities supported by Virtual Reality (VR) that, together with several communicative scenarios, lead to the development of linguistically precise motor rehabilitation exercises. The verbal communication data analysis includes the: collection of an oral corpus containing instructions for upper-limb exercises; adaptation of the instructions into messages; integration into VR-based gaming. The visual or voice messages are displayed via an interaction menu to guide and motivate the patient, according to the level of difficulty prescribed in the rehabilitation process.

In this talk, we address the activities related to self-care (ICF). To test the message creation and its impact on the execution of the exercises, we defined a set of variables, corresponding to the type of patient, lesion and exercise to be conducted to recover the mobility of the affected upper limb. A visual or voice-based instruction, such as /brushing teeth/, is associated with each variable combination and supported by a conceptual organisation of the self-care subdomain. MCD Rehab’s framework, anchored in Terminology, comprises corpus processing and analysis plus ontologies, enabling interoperability.

Com@Rehab widens the rehabilitation scenarios and contributes to lower healthcare costs, additionally providing patients with an active voice and guidance throughout the process.

<sup>1</sup> This project, which won the Santander/NOVA University Collaborative Research Award in 2020, is thoroughly described in <https://clunl.fcsh.unl.pt/en/investigacao/projetos-curso/comrehab/>.

*Keywords: health literacy; health equity; patient empowerment; communication; COVID-19 rehabilitation*

Topic: Others  
Abstract No: 13391

## Addressing health literacy in patient decision aids: an update from the International Patient Decision Aid Standards

Danielle Muscat<sup>1</sup> ; Jenna Smith<sup>1</sup> ; Olivia Mac<sup>1</sup> ; Tamara Cadet<sup>1</sup> ; Anik Giguere<sup>2</sup> ; Ashley Housten<sup>3</sup> ; Aisha Langford<sup>4</sup> ; Sian Smith-Lickless<sup>5</sup> ; Marie-Anne Durand<sup>6</sup> ; Kirsten McCaffery<sup>1</sup>

<sup>1</sup>Faculty of Medicine and Health, School of Public Health, Sydney Health Literacy Lab/ University of Sydney / Australia, <sup>1</sup>School of Social Work/ Simmons University/ United States, <sup>2</sup>Department of Family Medicine and Emergency Medicine/ Laval University/ Canada, <sup>3</sup>School of Medicine/ Washington University/ United States, <sup>4</sup>Department of Population Health/ New York University / United States, <sup>5</sup>Bath Centre for Healthcare Innovation and Improvement, Information Decisions and Operations, School of Management/ University of Bath/ United Kingdom <sup>6</sup>The Dartmouth Institute for Health Policy & Clinical Practice/ Dartmouth College/ United States

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Patient decision aids (PtDAs) are tools designed to help people participate in decision making about health care options, providing information on the options and helping patients clarify and communicate their personal values and preferences. There is increasing recognition of the importance of addressing health literacy in PtDA development.

**Objective and methods:** As part of an update of the International Patient Decision Aid Standards, the aim of this study was to conduct a review to examine the extent to which PtDAs are designed to meet the needs of lower health literacy/socially disadvantaged populations.

We searched the reference list of the Cochrane reviews of randomised controlled trials (RCTs) of PtDAs (2014, 2017 and upcoming 2021 versions) and included RCTs that assessed the impact of PtDAs on people with lower health literacy or other socially disadvantaged groups (i.e.  $\geq 50\%$  participants from socially disadvantaged groups and/or subgroup analysis in socially disadvantaged group/s). Two researchers independently extracted data into a standardized form including PtDA development and evaluation details. We searched online repositories and emailed authors to access PtDAs to verify reading level and understandability and actionability using the Patient Education Materials Assessment tool.

**Results:** Twenty-five out of 213 RCTs of PtDAs met inclusion criteria for our study, illustrating that only 12% of studies specifically addressed the needs of lower health literacy or other socially disadvantaged groups. Reading age was calculated in 8/25 studies (33%), which is recommended in previous IPDAS guidelines. We accessed and independently assessed 11 PtDAs. None were written at 6<sup>th</sup> grade level or below. Ten PtDAs met the recommended threshold for understandability, but only 5 met the recommended threshold for actionability. We also conducted a post-hoc subgroup meta-analysis and found that knowledge improvements after receiving a PtDA were greater in studies that reported using strategies to reduce cognitive demand in the PtDA development compared to studies that did not ( $\text{Chi}^2=14.11$ ,  $p=0.0002$ ,  $I^2=92.9\%$ ).

**Conclusions:** Greater attention to health literacy and socially disadvantaged populations is needed in the field of PtDAs to maximize equity in decision support.

*Keywords: health literacy; decision aids*

Topic: Health literacy and clinical healthcare settings (incl primary care)  
Abstract No: 13408

## **Co-construction of an intervention for low health literacy heart failure patients**

Adèle PERRIN<sup>1</sup> ; Anne-Marie SCHOTT<sup>1 2</sup> ; Estelle BRAVANT<sup>1 2</sup> ; Pauline DROUIN<sup>1 2</sup> ; François DELAHAYE<sup>1 3</sup> ; Alexandra DIMA<sup>1</sup> ; Julie HAESEBAERT<sup>1 2</sup>

<sup>1</sup>Public Health/ Université Claude Bernard Lyon 1, Research on Healthcare Performance (RESHAPE), INSERM U1290, Lyon/ France, <sup>2</sup>Public Health/ Hospices Civils de Lyon, Pôle de Santé Publique, Lyon, F-69003/ France, <sup>3</sup>Cardiology/ Hospices Civils de Lyon, Hôpital Louis Pradel, Lyon, F-69500/ France

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Introduction:** One in three patients with heart failure (HF) has low health literacy. Low health literacy leads to difficulties in understanding the condition, and an increased risk of medication non-adherence and re-hospitalization.

**Objective:** To develop an intervention targeting access to information and empowerment of low health literacy HF patients using a participatory approach involving key stakeholders. The intervention will be adapted to the local context and to the needs of the patients at the time of discharge from hospital and return home.

**Method:** We followed the step-by-step Ophelia methodology (Osborne et al. 2013). 1/ We conducted an observational mixed-methods study (cross-sectional survey associated with semi structured interviews) to measure HF patients health literacy level using the Health Literacy Questionnaire (HLQ) and the Brief Health Literacy screening tool, and to identify local strengths and needs. 2/ We designed clinical vignettes based on cluster analysis of the HLQ results and 3/ We organized participative co-construction workshops involving HF patients, caregivers and health professionals to design the intervention based on the clinical vignettes.

**Results:** The prevalence of low health-literacy was 50.6% among the 106 HF patients surveyed. The cluster analysis classified HF patients into 6 groups based on similar health literacy profiles. Four of the clinical vignettes typical of HF patients with the greatest difficulties were presented during 4 co-construction workshops involving 20 participants (in and out-hospital's health professionals, patients and caregivers). The levers and obstacles to self-management of the disease for each of the 4 patient profile were identified and the components of the intervention adapted to each type of profile were proposed.

**Conclusion:** This structured approach makes it possible to build a health intervention fitting the needs and issues of the stakeholders to improve the management of patients with low health literacy level.

*Keywords: Health Literacy, Ophelia methodology, health service access, cardiovascular disease*



**Oral Presentation: Session Oral 10 Health literacy in schools and educational settings  
Oct. 5th (Tue.) 10:00-12:30**

Topic: Health literacy in schools and educational settings  
Abstract No: 13423

**Towards the development of new health content in the national curricula in Mexico's basic education**

Gabriela Argumedo<sup>\*1</sup> ; Simón Barquera<sup>1</sup> ; Carlos Cruz<sup>1</sup> ; Maria Terersa Meléndez<sup>2</sup> ; Olga Martínez<sup>3</sup> ; Lucero Rodriguez<sup>4</sup>  
<sup>1</sup>Nutrition and Health Research Center/ National Institute of Public Health / Mexico (México), <sup>2</sup>Curricular Development/ Ministry of Education / Mexico (México), <sup>3</sup>Dirección de Prestaciones Económicas y Sociales/ Instituto Mexicano del Seguro Social/ Mexico (México), <sup>4</sup>Department of Health Promotion/ Ministry of Health / Mexico (México)

**Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background.** Since children spend nearly 30% of their time in schools this venue is strategic for learning, promoting, and practicing health behaviours. Approximately a third of the Mexican schoolchildren have high body mass index for their age, and their lifestyle and hygiene behaviours are poor while pro-environment behaviours (PEB) are scarcely studied. Schools lack an independent course addressing health literacy and promotion of health and promotion of health behaviours, hygiene and PEB. Instead, random health topics are covered within other subjects. In response, unified, new health contents will be incorporated in the national curricula of basic education. This work reports the processes of evaluation and selection of these contents and learning resources. **Methods.** Intersectoral and interinstitutional working meetings among academic, health and education stakeholders from the Ministry of Health and Education took place to (a) evaluate the current health contents and resources and (b) define new health contents and learning resources. The current learning objectives and learning resources were subject to a systematic evaluation based on a list of 10 criteria including the use of people first language and stigma-free content. The new contents proposed were based on the schoolchildren's health condition, the Sustainable Development Goals, amendments of the Education law, and the COVID-19 and global warming emergencies. **Results.** The new contents comprised three main axes of study: (a) Sustainable Healthy Diets, (b) Physical Activity and (c) Hygiene and Cleaning. Each consisted of seven main learning objectives graded according to the academic cycle groups into primary grades 1°-2°, 3°-4°, and 5°-6° and one for 1°-3° grades at the secondary level. 57.9% of current health contents were adapted. A total of 228 educative resources were evaluated and three books were selected and amended for delivering the new contents. **Conclusion.** Since health literacy predicts health behaviours among schoolchildren and adolescents, Mexican schoolchildren's access to adequate health education is imperative. Documenting the process of the development of new contents within the school curricula might provide valuable data to evaluate the impact of this type of health literacy national initiatives in low- and middle-income countries.

*Keywords: health literacy; school; policy; health behaviours; obesity.*



Topic: Health literacy in schools and educational settings  
Abstract No: 13095

## HealthLit4Kids: A professional development program to improve teachers' health literacy knowledge, skills and experience

Rosie Nash<sup>1</sup>; Kira Patterson<sup>2</sup>; Vaughan Cruickshank<sup>2</sup>; Claire Otten<sup>1</sup>; Satish Melwani<sup>1</sup>; Shandell Elmer<sup>2</sup>

<sup>1</sup>Public Health, College of Health & Medicine/ The University of Tasmania/ Australia <sup>2</sup>Education, College of Arts, Law & Education/ The University of Tasmania/ Australia <sup>2</sup>Global Health and Equity. Faculty Arts, Health & Design/ Swinburne University/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Introduction/Background/Problem**

Currently, health is not being taught consistently in the classroom, despite it being a compulsory curriculum requirement of the Australian Curriculum. The Health & Physical Education (HPE) strand makes specific reference to the importance of developing our primary school students' (5-12years) health literacy. As a lifelong skill, health literacy development in childhood informs adult health behaviours. Specialist HPE teachers struggle to do more than teach the PE component of the HPE curriculum in the time allocated and funded each week. Classroom teachers locally, nationally and internationally have highlighted a number of barriers to teaching health in the classroom which include time, resources, and confidence to teach health topics.

#### **Description of Objectives/Methods/Intervention**

HealthLit4Kids is a whole of school intervention designed to improve the health literacy of children and their communities. Co-designed with teachers, children and parents in each school the program seeks to provide teachers with a school-wide health literacy action plan. Three professional development workshops with the teaching staff from each school were provided in the implementation phase. An existing tool developed to assess health literacy knowledge, skills and experience (KSE) was administered to all teachers at 5 Tasmanian schools in workshop 1 (pre) and workshop 3 (post).

#### **Results (effects/impact/changes)**

Teachers (n=79) from all 5 schools reported an improvement in confidence in their health literacy KSE. The teacher's health literacy knowledge score significantly increased ( $P<0.001$ ) from pre ( $M=20.61$ ,  $SD=6.21$ ) to post ( $M=30.89$ ,  $SD=5.22$ ). The teacher's health literacy skills score also significantly increased ( $P<0.001$ ) from pre ( $M=11.15$ ,  $SD=3.65$ ) to post ( $M=17.36$ ,  $SD=3.48$ ).

#### **Discussions/Conclusions/Lessons Learned**

Teacher competence and confidence to teach health in the classroom is critical if we are to improve the health literacy, educational attainment, health outcomes and productivity of our future generations. Given health literacy can combat health inequalities, schools provide a logical setting for a population level response. HealthLit4Kids increased teacher's health literacy knowledge, skills and experience; however, to be confident in the findings, this research should be repeated in further schools nationally and internationally.

*Keywords: health literacy, professional development, teachers, confidence, competence*



Topic: Health literacy in schools and educational settings  
Abstract No: 13075

## Teacher dilemmas associated with student health literacy development in the primary school setting.

Rosie Nash<sup>1</sup> ; Shandell Elmer<sup>2</sup> ; Shane Pill<sup>1</sup> ; Vaughan Cruickshank<sup>2</sup>

<sup>1</sup>Public Health, College of Health & Medicine/ The University of Tasmania/ Australia, <sup>2</sup>Global Health and Equity. Faculty Arts, Health & Design/ Swinburne University/ Australia <sup>1</sup>College of Education, Psychology and Social Work/ Flinders University/ Australia <sup>2</sup>Education, College of Arts, Law & Education/ The University of Tasmania/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Introduction/Background/Problem**

Health literacy (HL) is an important component of the Australian Health and Physical Education Curriculum, however teaching HL can be challenging for teachers. Due to concerns around curriculum squeeze, teacher confidence and lack of clarity on who should teach health in the primary school context health and health literacy is often overlooked. Thus, this qualitative study explored the dilemmas teachers experienced when delivering a health literacy teaching program in primary schools.

#### **Description of Objectives/Methods/Intervention**

Eighty-four teachers in five primary schools in Tasmania (Australia) participated in the program, called HealthLit4Kids. Teachers participated in professional development workshops. Teacher reflections were collected at the final workshop held at the conclusion of the first year of the program and assessed using Windschitl's dilemmas to identify recurrent themes raised by the conceptual, pedagogy, cultural and political dilemmas teachers face every day.

#### **Results (effects/impact/changes)**

The key dilemmas faced by teachers surrounded the development of a whole-of-school approach, student engagement, professional development and shared language. Each category of Windschitl's dilemmas is intimately connected to the others in the context of teachers' professional lives, these connections will be illuminated throughout the presentation. The teachers described how the dilemma's were overcome in their school context, these solutions have portability to other teachers and schools locally, nationally and internationally.

#### **Discussions/Conclusions/Lessons learned**

The theory developed out of the themes informs health literacy program design and implementation and provides solutions for their scalability and sustainability. Being cognisant of the teachers' dilemmas makes it possible to work with our end users to adapt HealthLit4Kids for optimum uptake, impact and success.

*Keywords: health literacy, primary schools, constructivist dilemmas, HealthLit4Kids, professional development.*



Topic: Health literacy in schools and educational settings  
Abstract No: 13074

## Co-designing health literacy responsive schools in Tasmania, Australia.

Rosie Nash<sup>1</sup>; Shandell Elmer<sup>2</sup>; Nenagh Kemp<sup>3</sup>; Martina Wyss<sup>4</sup>; Julie Roach<sup>5</sup>; Sue Costello<sup>6</sup>

<sup>1</sup>Public Health, College of Health & Medicine/ The University of Tasmania/ Australia, <sup>2</sup>Global Health and Equity, Faculty Arts, Health & Design/ Swinburne University/ Australia, <sup>3</sup>Psychology, College of Health & Medicine/ The University Of Tasmania/ Australia, <sup>4</sup>Sector Improvement and Innovation/ Primary Health Tasmania/ Australia, <sup>5</sup>Health Literacy Projects/ Tasmanian Council of Social Services (TasCoSS)/ Australia, <sup>6</sup>26TEN Strategy, Libraries Tasmania/ Tasmanian Government/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Introduction/Background/Problem**

To ensure health equity, health services and community organisations must respond to the health literacy needs of everyone who accesses their services. Health literacy has been recognised as a social determinant in its own right that relies on interactions between the provider, individual and their wider community. Globally, organisational health literacy, health literate environments and health literacy responsiveness have been attracting increased attention. However, this is the first time that the health literacy responsiveness of schools themselves has been measured.

#### **Description of Objectives/Methods/Intervention**

Teachers at five participating schools completed the HeLLOTas (Health Literacy Learning Organisations, Tasmania) self-assessment checklist. They did so before and after participating in HealthLit4Kids. HealthLit4Kids aims to improve the health literacy of teachers, children and their communities. The HeLLOTas checklist required respondent to rate 77 items across six domains. In its completion (in groups), it supported teachers to develop a shared understanding of the “domains” of a health literate organisation. It also provided a measure to determine each school’s health literacy responsiveness.

#### **Results (effects/impact/changes)**

Although the differences between the pre- and post-intervention ratings were not large, they were in a positive direction for all six domains. A repeated-measures analysis of variance confirmed that overall ratings increased significantly from pre- to post-intervention,  $F(1, 4) = 83.9, p < .001, \eta^2 = .99$ . Supporting qualitative comments from the teachers were used to identify themes.

#### **Discussions/Conclusions/Lessons learned**

Teachers worked together to complete the checklist and discuss the six domains. This proved to be a useful education strategy capable of increasing awareness of the importance of schools becoming health-literacy responsive. Within our wider evaluation matrix, this data confirms that the HealthLit4Kids program can positively improve a school’s health literacy responsiveness. Further, teacher comments highlighted that the language in the tool was more suited to health than those working in the education sector. This requires consideration from a usability point of view. Teacher comments will inform the design of a guide for schools to support the use of an existing tool or inform the development of an organisational health literacy tool specific for schools.

*Keywords: health literacy, responsive, primary schools, HealthLit4Kids, professional development.*

Topic: Health literacy in schools and educational settings  
Abstract No: 13402

## Investigating the relationship between the dimensions of health literacy and health-promoting lifestyle among healthcare undergraduate students

Jehad Rababah<sup>\*1</sup> ; Mohammed Al-Hammouri<sup>1</sup>

<sup>1</sup>Faculty of Nursing/ Jordan University of Science and Technology/ Jordan (□□□□□□)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Health literacy plays a significant role in determining the overall health of individuals and groups of people. The literature shows that health literacy is closely linked to health-promoting lifestyle of undergraduate students. However, evidence regarding which dimension of health literacy has a greater impact on healthcare undergraduate students' health-promoting lifestyle is scarce.

**Objective:** To investigate which dimension(s) of health literacy significantly predict(s) the health promoting-lifestyle of healthcare undergraduate students.

**Methods:** A cross-sectional design was used. Data were collected from 234 healthcare undergraduate students (Medicine, Dentistry, Nursing, Pharmacy, and applied medical sciences) in Jordan. A demographics questionnaire as well as the Health Literacy Questionnaire (HLQ) and the Health Promoting Lifestyle Profile (HPLP-II) were completed by the students. Bivariate correlations and multiple linear regression analyses were performed.

**Results:** Male students represented 56% of the sample. Bivariate correlations showed that the nine HLQ scales are positively correlated with students' HPLP-II total scores ( $r = .32$  to  $.50$ ,  $p < .001$ ). In addition, all bivariate correlations of the HLQ scales with the HPLP-II subscales were statistically significant. The results of the regression analysis revealed that the model was statistically significant ( $F\{9, 224\} = 11.88$ ,  $p < .001$ ), with an adjusted  $R^2$  of  $.30$ . Of the nine HLQ scales, three scales significantly contributed to the regression model. These scales are: a) "feeling understood and supported by healthcare providers" ( $\beta = .25$ ,  $t = 2.81$ ,  $p = .005$ ), b) "actively managing my health" ( $\beta = .25$ ,  $t = 2.49$ ,  $p = .014$ ), and c) "social support for health" ( $\beta = .19$ ,  $t = 2.76$ ,  $p = .006$ ).

**Discussion and conclusion:** These results are consistent with the literature findings regarding the positive correlation between healthcare students' health literacy and health-promoting lifestyle. In addition, they add insights about the dimensions of health literacy that are responsible for predicting the health-promoting lifestyle of healthcare students. The three statistically significant scales explain around one third of the outcome variance (i.e. healthcare students' health-promoting lifestyle). Such findings could help designing tailored health literacy interventions to promote the health promotion of healthcare students. Further research among undergraduate students representing other fields of study is warranted.

**Keywords:** health literacy; health-promoting lifestyle; healthcare students



Topic: Health literacy in schools and educational settings  
Abstract No: 13453

## Health interventions in view of improving health literacy of engineering and ICT students in Mauritius

B Sabeena Dowlut Toofanee<sup>\*1</sup> ; Maryvette Balcou Debussche<sup>2</sup> ; David Authier<sup>3</sup> ; Xavier Debussche<sup>4</sup> ; M Shaad Ally Toofanee<sup>1</sup>  
<sup>1</sup>Applied Informatics/ Université Des Mascareignes/ Mauritius (Moris), <sup>2</sup>Educational Science/ Université de la Réunion/ France,  
<sup>3</sup>Educational Science/ Université de Limoges/ France, <sup>4</sup>CHU/ Centre Hospitalier de Paimpol/ France

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Health literacy In Mauritius can be improved among young adults studying at the university in the non-medical field through structured health interventions. Mauritius which is an island in the Indian Ocean consisting of 1.2 million inhabitants, of which one fifth suffers from diabetes. The scientific research works undertaken internationally showed evidence of the importance to access and understand health information and contextualised decisions. Research works on health literacy undertaken in several countries have shown the contribution of educational actions to reduce the prevalence of non-communicable diseases, more specifically, in the field of diabetes type 2.

In this research work, we are questioning the conditions underlying the development of health literacy among students enrolled at a University in Mauritius. The strengths and weaknesses are analysed in relation to the educational interventions proposed to a total of 48 students in the Information and Technology field. Through an Intervention-Research process which deploys the "Learning nests", we are questioning the work underlying the biomedical and psychosocial dimensions of health which takes into account the benefits of socio-constructivism and empowerment in particular context. In terms of methodology, we tried to confront quantitative data collected from 234 multi-dimensional questionnaire HLQ (Health Literacy Questionnaire) with qualitative data (observations, interviews, thematic analysis), which enable analysis of knowledge worked out throughout the educational interventions and their possible acquisition by students.

The results show in general a low level of health literacy of the students. They also show how the educational interventions could allow for the development, in Mauritius, access to and understanding information related to health as well as decisions in favour of prevention of chronic diseases. They finally highlight the strengths and weaknesses of mixed methodologies, pertaining to research in health literacy, which is presently evolving.

*Keywords: health literacy;Mauritius;University;health intervention;learning nest*



## Oral Presentation: Session Oral 11 Health literacy and COVID-19 Oct. 5th (Tue.) 11:00-12:30

Topic: Health literacy and COVID-19  
Abstract No: 13457

### Health Literacy Principles during a Pandemic

Kristine Taylor<sup>\*1</sup> ; Jenny Shaffer<sup>\*1</sup>

<sup>1</sup>Nursing/ Stanford Children's Health/ United States

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

This session will review our standards and process for creating health literate material during a pandemic. We will provide real time examples used by our organization to address patient/family educational needs in response to the COVID-19 pandemic. The rapidly changing information about COVID-19 required an innovated method in the creation, tracking and dissemination of educational material. Stanford Children's Health incorporated family centered care principles, our health literacy standards, the incident command structure and an online document management system to support education for our patients and families.

During times of crisis, it is essential that key health literacy principles are not lost due to a rapid response. Come and learn how health literacy principles were held firm during our COVID-19 response. Participants will learn how they can incorporate health literacy concepts into a system-wide response to a disaster. This information can advance health literacy in organizations and provide understanding to how educational material can affect outcomes.

1. Review of Family Centered Care Principles and Health Literacy standards.
2. Integration of Office of Patient/Family Education & Health Literacy into the pandemic response.
3. Share the multiple methods the organization used for providing patient/family education about COVID-19 and practice changes.



Topic: Health literacy and COVID-19  
Abstract No: 13416

## Health support to at-risk, culturally diverse seniors during COVID-19

Marian Ryan<sup>\*1</sup> ; Sonia R. Sehgal, MD<sup>2</sup>

<sup>1</sup>Chief Health Policy and Research Officer/ Institute for Healthcare Advancement/ United States, <sup>2</sup>Medical School - Geriatrics/ University of California, Irvine's Institute for Clinical Translational Science/ United States

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

Seniors are the most susceptible group to COVID-19 infection and at highest risk for severe disease and death. Accessible and understandable information on COVID-19 is lacking in the community and misinformation is widespread. Seniors anecdotally have been foregoing doctor visits and prescription medications. Research is needed on how to best support at-risk seniors in their homes during COVID-19.

#### **Methodology**

The study is exploring the feasibility of partnering with a trusted entity – Meals on Wheels to deploy senior kits during the COVID-19 shutdown. Seniors were pre-assigned into treatment or control arms using simple randomization at the time of kit distribution. The kit included a study flyer, COVID-19 educational flyer with hot-line numbers, kit introduction, home fall assessment guide, DVD with simple fall-prevention, chair exercises, and a senior health book (written at the 5<sup>th</sup>-6<sup>th</sup> grade reading level).

Upon consent the senior was enrolled into their pre-assigned group; control assigned seniors were interviewed for survey at the start of the study and again 3-4 months later, and treatment assigned seniors additionally received ongoing telephone support between the initial and final surveys.

This prospective, quasi-experimental control study aims to determine engagement factors in enrolled seniors living in the community; and pre-post rates of change for COVID-19 knowledge and behaviors, on-line accessibility, telehealth doctor visits, self-care, loneliness, and fall prevention exercises. All results will be analyzed by health literacy (measured by the Brief Health Literacy Screen). Focus groups will be held the first week in June.

#### **Results**

208 educational kits were distributed via Meals on Wheels over 16 weeks; 98 seniors were successfully enrolled (47.1%). Baseline results found equivalency between treatment and control groups on observed variables including clinical risk, health literacy, COVID-19 knowledge, internet use, loneliness, and exercise pre-pandemic. Statistically significant differences in baseline measures were found by inadequate and marginal health literacy.

#### **Conclusions**

The study is ongoing through June 2021. This proposed study will inform new practice and community approaches for maintaining health, function and social connectedness among at-risk culturally diverse seniors during a pandemic. It is also testing a low-touch, literacy and language appropriate intervention.

*Keywords: health literacy; COVID-19; community seniors; low-touch intervention; health equity*

Topic: Health literacy and COVID-19  
Abstract No: 13357

## The associations between the assessment of e-health services provided during the COVID-19 pandemic and health literacy

Mariusz Duplaga<sup>\*1</sup>

<sup>1</sup>Department of Health Promotion and e-Health, Institute of Public Health/ Jagiellonian University Medical College/ Poland (Polska)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background.** The COVID-19 pandemic resulted in the extensive use of e-health services in many countries. Before the pandemic, the utilisation of remote health services has been relatively low in Poland. This has changed significantly after the Ministry of Health's encouragement in response to the epidemic threat. This study aimed to assess the association between the opinions about e-health services, health (HL) and e-health literacy (eHL) and sociodemographic variables.

**Methods.** The web-based survey was performed in the representative samples of 1002 Internet users. The tools used in the study consisted of the 16-item European Health Literacy Survey questionnaire (HLS-EU-Q16), eHealth Literacy Scale (eHEALS), the questions asking about the use of e-health services during the pandemic and the set of sociodemographic items. The satisfaction of provided e-health services (SAT) and the support for the provision of e-health services in the future (SUP) were included as dependent variables in univariate logistic regression models.

**Results.** The use of e-health services was declared by 60.5% (n=607) respondents. High SAT was declared by 46.3% (n=281) and SUP by 40.1% (n=244) of the study participants. SAT was significantly associated with HL score (OR; 95%CI: 1.13; 1.07-1.18), eHL score (1.07; 1.03-1.11), but not with sociodemographic variables. Those who participated in a remote visit in relation to chronic disease (1.49; 1.01-2.21) or needed e-prescription (1.42, 1.02-1.97) were more likely to be satisfied with e-health service than other e-health users. SUP was significantly associated with eHL score (1.06; 1.03-1.10), but not with HL score (1.19; 0.98-1.08). SUP was also higher in inhabitants of the urban than rural areas (for comparison of inhabitants of cities >500,000 with rural areas: 2.32; 1.37-3.96), in those with the University than with non-secondary education (1.78; 1.06-2.99), and in singles than married persons (1.89; 1.31-2.74). It was also higher for the respondents using e-visit for obtaining e-prescription (1.47; 1.05-2.07).

**Conclusions:** The development of adequate eHL and HL may be of critical importance for accelerating the use of e-health services in society.

**Keywords:** health literacy, e-health literacy, e-health, remote visit, COVID-19

Topic: Health literacy and COVID-19  
Abstract No: 13271

## **Information challenges of people with limited health literacy during the COVID-19 pandemic; a qualitative study in the Netherlands**

Jany Rademakers<sup>1 2</sup> ; Bart Knottnerus<sup>1</sup> ; Monique Heijmans<sup>1</sup>

<sup>1</sup>Research department / Nivel - Netherlands Institute for Health Services Research/ Netherlands, <sup>2</sup>Department of Family Medicine/ CAPHRI - Maastricht University / Netherlands

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Almost three out of 10 individuals in the Netherlands have limited health literacy (HL), meaning that they have difficulty finding, understanding, appraising and applying health information. During the COVID-19 pandemic, people have been confronted with a large amount of information about the virus and the governmental measures against its spreading. Especially for individuals with limited HL it may be a challenge to understand and process this information.

To find out how what specific challenges people with limited HL faced during the COVID-19 pandemic, a qualitative study was performed in the Netherlands. Between June and October 2020, 28 people with limited HL were interviewed by phone (age range 20-84). In the semi-structured interviews we asked the participants how they acquired information about COVID-19 and governmental measures against it, what difficulties they experienced in understanding and applying this information and what may be needed to overcome these difficulties. We also addressed worries and other problems people might face as a result of the pandemic.

The participants in our study generally found the COVID-19 information too difficult, since it is much and complicated and sometimes contradictory. Virtually all interviewed people watched official press releases by the government on television, but needed additional information and explanation to really understand it. None of the participants knew or used the specific materials on COVID-19 that have been developed for people with limited health literacy. Many participants, especially those with a chronic disease, would value additional personalized information from their own health care provider. Whether people are able or willing to comply with the preventive measures partly relies on the level of trust they have in the government. Trust or rather distrust was a definite issue for some of the participants. A general problem that was frequently mentioned was that as a result of Covid-19 regular health care was sometimes postponed.

*Keywords: health literacy, information, COVID-19*

Topic: Health literacy and COVID-19  
Abstract No: 13426

## Assessing COVID-19 Vaccine Literacy and Demographic Factors

Sri Handayani<sup>1</sup>; Eti Rimawati<sup>1</sup>; Eko Hartini<sup>1</sup>; Lenci Aryani<sup>1</sup>; Ririn Nurmandhani<sup>1</sup>; Dian Puspitaningtyas<sup>1</sup>  
<sup>1</sup>Public health/ Universitas Dian Nuswantoro/ Indonesia <sup>1</sup>Environmental Health/ Universitas Dian Nuswantoro/ Indonesia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** The Vaccine COVID-19 infodemic can lead the misunderstanding about the vaccine in community, and increase the unacceptance rate of the program. This study aims to investigate the correlation between demographic factors and COVID-19 vaccine literacy.

**Method:** A cross-sectional survey through online survey was conducted among 252 respondents. Functional, communicative, critical health literacy, age, gender, and level of education was measured. The vaccine health literacy was used questionnaire by HLVa-IT English version - Health Literacy about Vaccination in adulthood in Italian. The rank spearman test was used to measure the correlation of demographic factors and COVID-19 Vaccine HL.

**Result:** Education has a positive significant correlation with functional HL (p: 0,001; r: 0,55), Critical HL (p: 0,045; r: 0,16), and overall COVID-19 vaccine HL (p: 0,028; r: 0,174). Age has a positive significant correlation with communicative HI (p:0,014; r: 0,193), Critical HL (p: 0,042; r: 0,161), and overall COVID-19 vaccine HL (p: 0,002; r: 0,239). While gender has no correlation with HL.

**Conclusion:** Assessing vaccine health literacy is important which can be useful to adapt medical communication strategies, for a better understanding of the value of immunization especially for this pandemic.

*Keywords: COVID-19; Vaccine Literacy; Demographic Factors*

Topic: Health literacy and COVID-19  
Abstract No: 13296

## Digital health literacy, online information-seeking behaviour, and satisfaction of Covid-19 information among the university students of East and South-East Asia

Mila Nu Nu Htay<sup>\*1</sup>; Laurence Lloyd Parial<sup>2 3</sup>; Ma. Carmen Tolabing<sup>4</sup>; Kevin Dadaczynski<sup>5 6</sup>; Orkan Okan<sup>7</sup>; Angela Yee Man Leung<sup>2 8</sup>; Tin Tin Su<sup>9</sup>

<sup>1</sup>Department of Community Medicine / Manipal University College Malaysia/ Malaysia, <sup>2</sup>Centre for Gerontological Nursing/ School of Nursing, Hong Kong Polytechnic University/ Hong Kong (香港), <sup>3</sup>College of Nursing/ University of Santo Tomas/ Philippines, <sup>4</sup>Department of Epidemiology and Biostatistics/ College of Public Health, University of the Philippines/ Philippines, <sup>5</sup>Department of Nursing and Health Science/ Fulda University of Applied Sciences/ Germany (Deutschland), <sup>6</sup>Center for Applied Health Science/ Leuphana University / Germany (Deutschland), <sup>7</sup>Faculty of Educational Science, Interdisciplinary Centre for Health Literacy Research/ Bielefeld University/ Germany (Deutschland), <sup>8</sup>World Health Organization Collaborating Centre for Community Health Services/ School of Nursing, Hong Kong Polytechnic University/ Hong Kong (香港), <sup>9</sup>South East Asia Community Observatory (SEACO) & Global Public Health, Jeffery Cheah School of Medicine and Health Sciences/ Monash University Malaysia/ Malaysia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Introduction:** During the COVID-19 pandemic, there is a growing global interest in searching online information about the coronavirus. Our study aimed to investigate the Digital Health Literacy (DHL) level, information-seeking behaviour, and satisfaction of information on COVID-19 among East and South-East Asia university students.

**Methods:** This cross-sectional web-based study was conducted between April to June 2020 by recruiting students from the universities in China, Malaysia, and the Philippines. Students who are aged  $\geq 15$  years old and have Internet access were invited to participate in the study. Sociodemographic variables, DHL scale, information-seeking behaviour, and satisfaction items were included in the questionnaire. Descriptive statistics and logistic regression analysis were conducted.

**Results:** A total of 5351 university students responded to the survey. The overall mean score of the four DHL subscales was 2.89 (SD 0.42). "Search engines (eg. Google, Bing, Yahoo)" and social media (88.4%) were highly utilized by the students (91.9%), whereas "websites of doctors or health insurance companies" were of lower relevance (64.6%). Higher DHL in the domains of information searching, determining relevance, evaluating reliability, and protecting privacy were positively associated with the usage of more reliable resources. Meanwhile, utilizing social media and online encyclopaedias were more likely to occur among students with insufficient DHL skills in evaluating information source reliability.

**Conclusion:** The utilization of limited reliable resources is still common among university students in COVID-19 related information searching. Therefore, strengthening the DHL among the students will enhance their critical thinking and evaluation of online resources, which could direct them to the quality and trustworthy information sources on COVID-19.

**Keywords:** *Digital Health Literacy; COVID-19; information-seeking behaviour; East Asia; South-East Asia*



**Oral Presentation: Session Oral 12 Health Literacy, Medication and Medical Procedures  
Oct. 5th (Tue.) 11:00-12:30**

Topic: Health literacy and health equity  
Abstract No: 13360

**Creating health literate patient education materials for gender affirming patients**

Estella Natal<sup>1</sup> ; Kevin Moore<sup>2</sup>

<sup>1</sup>Patient and Family Education / NYU Langone Health/ United States, <sup>2</sup>Gender Affirming Program/ NYU Langone Health/ United States

**Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Recognized as a leader in LGBTQ+ (Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, Plus) healthcare equity in the United States, **NYU Langone Health's Gender Affirming Program** offers comprehensive care for transgender and gender non-binary people (TGNB). This includes multiple gender affirming surgeries, hormone therapy, post-operative rehabilitation care, transgender health support services and a Gender and Sexuality Service for TGNB youth. This program, at a prominent academic medical center, is at the forefront of research and innovation in transgender surgery with over 600 various procedures performed annually. Following the standards of the World Professional Association for Transgender Health, the multidisciplinary team uses the most advanced techniques to restore both form and function for TGNB people to meet their personal goals and expectations.

The program's Registered Nurse collaborates with the Health Literacy Specialist from Patient and Family Education to convert pre and post-operative handouts and other patient education resources (email/video scripts, caregiver guides, etc.) into Plain Language. Their collaboration ensures that patient education materials are health literate and culturally sensitive for their multi-ethnic, multi-lingual, and gender diverse patient population.

**The methodology is the following:**

- Clinicians (doctors, nurses, etc.) determine needed topics and compose drafts.
- Health Literacy Specialist rewrites drafts in Plain Language and applies Health Literacy best practices and design.
- When revisions are finalized, they are archived and uploaded to the digital Patient Education Handouts Library on the NYU Langone internal website and our electronic health record system (Epic). Materials are translated as needed.

Gender affirming patients require an abundance of patient education and support services to prepare for surgery both physically and psychologically. This has been especially important during the COVID-19 pandemic. Many of these surgeries require post-operative care that can be challenging and overwhelming for patients. Their recovery process requires a strong support system and a lifelong commitment to the post-operative plan of care. These health literate patient education resources reinforce key messages and serve as a handbook for their care. The diverse multidisciplinary gender affirming team at NYU Langone provides services that give patients the necessary physical and emotional care to advance health equity for the LGBTQ+ community.

*Keywords: LGBTQ+ health equity; transgender and gender non-binary people (TGNB); gender affirming surgery*



Topic: Health literacy and NCDs  
Abstract No: 13464

## New instrument to assess health literacy among people living with diabetes

Andrea Maria Eleutério de Barros Lima Martins<sup>\*1</sup> ; Andressa Tavares Gomes<sup>1</sup> ; Thaisa Soares Crespo<sup>1</sup> ; Árlen Almeida Duarte<sup>1</sup> ; Ana Monique Gomes Brito<sup>1</sup> ; Paula Karoline Soares Farias<sup>1</sup> ; Maria Tereza Carvalho Almeida<sup>1</sup> ; Nadja Ferreira Rabello de Melo<sup>1</sup>

<sup>1</sup>Dentistry/ Universidade Estadual de Montes Claros/ Brazil (Brasil)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Introduction: Diabetes is a public health problem and tools to evaluate health literacy in among people living with diabetes are scarce. It is difficult to find tools to estimate the levels of access, understanding, evaluation and application of information about diabetes. Here, it is proposed to use a questionnaire called "Health Literacy in Diabetes long version (HLD-long). Methods: It was a methodological study conducted in a Brazilian municipality from 2016 to 2021, whose population is approximately 400,000 people. The questionnaire, consisting of 155 items, was based on a literature review and considered the theoretical model proposed by Sørensen and collaborators. The quality assessment was designed according to the Cosmin checklist. After a simple random drawing from the 73 primary care centers, 5 centers were chosen and the survey was answered by 340 people living with diabetes. The study consisted of four stages comprised four phases: 1) Creating the survey (HLD-long); 2) Evaluation of the questionnaire content by a committee of experts to ascertain the adequacy and coherence of the items; 3) Review of the final version by the committee 4) Estimation of reliability using Cronbach's alpha test (internal consistency) and test-retest / reproducibility (simple and weighted kappa). It contains 155 questions or items that propose the assessment of access by estimating number of people / professionals, subjects and printed / electronic / digital materials accessed by the participants; that allow the characterization of literacy (access / understanding / evaluation / application) according categoric prodissional or people who offered the information. A committee of experts verified the questions' relevance and adequacy. Results: The (HLD-long); showed content validity and reliability. Psychometric analysis (exploratory factor analysis, correlations between distinct surveys, with presentation of interpretability) of short versions and cutouts of the long version have been done. Conclusion: Psychometric assessments were made and associated with the proven content validity and reliability already shown suggest that the (HLD-long) among other versions coming from this survey, could be used in primary health care in future studies to estimate literacy levels, for the purpose of to the elaboration of health policies consistent with reality.

*Keywords: Health Literacy; Diabetes; Psychometrics*

Topic: Health literacy and older adults  
Abstract No: 13418

## Health literacy and cardiac surgery: a new perspective to better help patients

Isabelle Carignan<sup>\*1</sup>; Annie Roy-Charland<sup>\*2</sup>; Marie-Christine Beaudry<sup>\*3</sup>; Carly Buckner; Alexandre Nazair<sup>2</sup>; Rony Atoui<sup>\*4</sup>  
<sup>1</sup>Education/ TÉLUQ University/ Canada, <sup>2</sup>Psychology/ University of Moncton/ Canada, <sup>3</sup>Education/ University of Quebec in Montreal (UQAM)/ Canada, <sup>4</sup>Cardiac surgery/ Northern Ontario School of Medicine (NOSM)/ Canada

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Introduction:** There is a wide variation in patient's involvement in their medical decision-making. Health literacy has been shown to be one of the main factors behind this observed variation. Previous studies have demonstrated a linear relationship between health literacy and self-reported involvement as well as postoperative clinical outcomes. This relationship however has not yet been examined in patients undergoing cardiac surgery, which has a higher rate of complications and mortality and is typically associated with a significant level of stress and anxiety.

**Methods:** This pilot study aimed to examine the relationship between the degree of health literacy, and self-reported patient involvement and clinical outcomes in 33 patients undergoing cardiac surgery. Additional objectives included the identification of factors influencing the degree of health literacy as well as the assessment of the preoperative and postoperative anxiety level in these patients. Several methodological tools were used in this descriptive and exploratory research opting for a mixed method analysis that include a preoperative and postoperative structured questionnaires, phone or in-person follow-up before the surgery and analysis of the standard documents given to the patients before their surgery. Descriptive and inferential statistical analysis were performed.

**Results:** Results revealed that patients reporting lower levels of health literacy reported being significantly more anxious. Similarly, results revealed a significant positive correlation between reported health literacy and reported degree of calmness. Furthermore, the higher the reported literacy comprehension, the more reassured patients felt. Patients who reported reading the informative documents reported higher literacy comprehension. Interestingly, these results were not explained by the patients' level of education or confidence in their surgeon. In fact, while patients' level of education varied (elementary to doctorate level), all reported high levels of confidence in their surgeon.

**Conclusion:** The degree of health literacy can play an important role in patient's involvement in their own decision making when undergoing cardiac surgery. These results provide insight into the factors that could help improve patient's health literacy proficiency and better assess their level of anxiety preoperatively. Future research is needed to unravel further this relationship and assess whether it has an impact on clinical outcomes.

*Keywords: Health literacy; older adults; comprehension, anxiety; cardiac surgery.*



Topic: Health literacy and patient safety  
Abstract No: 12950

## Better Labels = Better Health: Improving Medication Labels to Enhance Understanding

Stan Hudson<sup>\*1</sup>; Michele Erikson<sup>1</sup>; Bhumi Khambholja<sup>1</sup>  
<sup>1</sup>Wisconsin Health Literacy/ Wisconsin Literacy, Inc./ United States

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Confusion over medication directions for use is one of the primary reasons patients do not take medications appropriately. This results in extended illness, slower recovery, readmissions, and reduced patient satisfaction. In a recent survey of nearly 1,000 patients, 88% said they find labels confusing and 23% said they had taken a medication wrong because the label was confusing.

In May 2013, the United States Pharmacopeia (USP) released evidence-based standards for patient-centered medication labels. Research shows patient-centered labels improve medication use, especially for patients with low health literacy. This presentation will describe Wisconsin Health Literacy's collaborative effort to implement patient-centered prescription labels. New labels have been introduced at 211 pharmacy locations dispensing approximately 4 million prescriptions annually. Pharmacists, pharmacy managers and patients were enthusiastic about patient-centered labels. Analysis of data from one pilot pharmacy system and a related Medicaid health plan show improved adherence in 3 drug categories.

In this session, participants will learn how health literacy affects use of prescription medications from the perspective of patients, pharmacists and providers; become familiar with the prescription label standards and how they can be implemented in pharmacies, share ideas on how to improve the directions for use (sig), and explore how the implementation model developed in Wisconsin may be replicated in pharmacies around the world.

*Keywords: medication errors, adherence, patient safety, system change, patient centered*



Topic: Health literacy interventions and behavior change  
Abstract No: 13079

## A mixed methods investigation of the barriers and facilitators of diabetes medication adherence across different health literacy levels

Yen-Ming Huang<sup>\*1 2</sup> ; Olayinka Shiyanbola<sup>1</sup> ; Kristen Pecanac<sup>2</sup>

<sup>1</sup>Allied and Population Health/ South Dakota State University/ United States, <sup>2</sup>Graduate Institute of Clinical Pharmacy/ National Taiwan University/ Taiwan (台灣) <sup>1</sup>School of Pharmacy/ University of Wisconsin-Madison/ United States <sup>2</sup>School of Nursing/ University of Wisconsin-Madison/ United States

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** A deeper understanding of the specific communication and psychosocial factors related to medication-taking behaviors across different levels of health literacy among people with type 2 diabetes (T2D) will guide the development of tailored interventions to enhance medication adherence.

**Objectives:** (1) To examine whether the barriers and facilitators associated with medication adherence differ among people with T2D across different levels of health literacy. (2) To explore patients' perceptions of the barriers and facilitators of medication adherence across different levels of health literacy. (3) To understand how the qualitative interview data complement the quantitative survey results about the barriers and facilitators of medication adherence.

**Methods:** This mixed-methods study used an explanatory sequential design, including a quantitative study with a survey questionnaire followed by a qualitative study with semi-structured interviews. The Health Literacy Pathway Model was used to identify the psychosocial and communication factors that may influence medication adherence. Participants enrolled were at least 20 years old, diagnosed with T2D, understood English, and prescribed at least one oral diabetes medicine daily. Analysis of covariance and direct content analysis were used respectively in quantitative and qualitative analysis. A joint display was used to present the integrated findings from quantitative and qualitative data.

**Results:** In the quantitative phase, 205 participants provided complete information in the survey questionnaire. In the qualitative phase, 23 participants completed semi-structured interviews. Confirmed by quantitative and qualitative data, holding stronger self-efficacy, having fewer concern beliefs about medication, and possessing fewer perceived barriers to medication-taking are necessary for better medication adherence. Linking medication-taking to daily routine and focusing on the internal locus of control is an imperative approach to foster self-efficacy of medication use. Addressing patients' life experience and clarifying medication misinformation may help participants cope with their concerns with medications. Solving the high cost of medications and therapy-related problems could lessen participants' perception of barriers to medication-taking.

**Conclusion:** To optimally support patients' diabetes care, practitioners should address concern beliefs among non-adherent patients with low health literacy, as well as emphasize self-efficacy and perceived barriers to medication adherence among all non-adherent patients with T2D.

**Keywords:** *content analysis; diabetes; health literacy; medication adherence; mixed methods*



Topic: Health literacy interventions and behavior change  
Abstract No: 13045

## Impacts of the SAIDS counseling approach on consumers' understanding of the use of over-the-counter medicines in a community pharmacy

Yen-Ming Huang<sup>1, 2</sup>; Yunn-Fang Ho<sup>2, 3</sup>; Yao-Hsing Wang<sup>4</sup>; Ling-Ling Hsieh<sup>3</sup>; Ling-Jie Chen<sup>5</sup>; Karin C.S. Chen-Liu<sup>3</sup>  
<sup>1</sup>Allied and Population Health/ South Dakota State University/ United States, <sup>2</sup>Graduate Institute of Clinical Pharmacy/ National Taiwan University/ Taiwan (台灣), <sup>3</sup>School of Pharmacy/ National Taiwan University/ Taiwan (台灣), <sup>4</sup>Pharmacy/ Profession and Quality Pharmacy/ Taiwan (台灣), <sup>5</sup>Pharmacy/ Chen-Fang Pharmacy/ Taiwan (台灣)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Introduction:**

In Taiwan, only one-third of consumers correctly understood how to take OTCs if they relied solely on OTC package descriptions.

#### **Objectives:**

This study aimed to design, implement, and evaluate impacts of a tailored pharmacist counseling approach on consumers' awareness of the correct use of OTC medicines.

#### **Methods:**

This prospective study was conducted using a time-based sampling of two independent groups at a single community pharmacy in Taiwan for one year period beginning December 2018. Participants included were consumers who were at least 20 years old, Mandarin-speaking, and acquired an OTC medicine at the study site. In the control group, participants received a usual counseling of the use of OTCs they acquired. In the experimental group, participants received a fine-tuned pharmacist counseling along with the instruction of medicine use from the OTC packaging. One hundred participants were recruited in each group. A facilitator-administrated survey was used through a face-to-face approach to evaluate participants' awareness of the correct use of OTC medicines. Descriptive statistics and Chi-square test were performed to compare the differences in the understanding of correct use of OTCs between two phases.

#### **Results:**

The fine-tuned counseling approach was designed and composed of five steps that facilitated a structured pharmacist-consumer interaction about how to use OTCs safely. These principles (SAIDS) include (1) Surface the past medicine history, (2) Inquire Allergy, (3) provide the medicine Indication for consumers, (4) Direct how to take the medicine correctly, and (5) Strategies of coping with common Side effects and Self-care. Compared with the traditional counseling approach, participants had higher correctness in the understanding of how to use OTCs via the SAIDS counseling approach along with highlighting package label instructions. Consumers had significant improvements in understanding indications ( $p = 0.047$ ), side effects ( $p = 0.046$ ), and how to handle side effects ( $p < 0.001$ ) of respective OTCs acquired by each individual.

#### **Discussion:**

The fine-tuned counseling approach may help refine pharmacists' skills of OTC counseling toward a more structured and effective way under time-limited encounters with consumers. The SAIDS counseling approach is encouraged to test its effectiveness and generalizability at more community settings on a large scale.

*Keywords: Counseling; Label; Over-the-counter; Pharmacist*



## Workshop 3, Oct. 5th (Tue.) 11:00-12:30

Topic: Health literacy and health equity  
Abstract No: 13388

### Increasing Access to Healthcare Information through High-Value Writing

Erin Lebacqz<sup>\*1</sup>

<sup>1</sup>Learning & Development/ High-Value Writing/ United States

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Today's patients come from varied backgrounds in terms of reading ability, language fluency, and experience with English. Because many patients visit healthcare practitioners during times of stress, anxiety, and pain, even patients with high levels of reading and English comprehension can get confused when reading materials intended to provide health education.

We can help support all patients by using high-value writing to ensure our messages are clear, concise, and targeted. Providing easy-to-read information that doesn't derail comprehension increases access to healthcare for all, regardless of a reader's level of preparation. Studies in cognition have taught us what types of words, sentences, and paragraphs are easiest (and hardest!) to read; by applying this learning, we can easily identify words that affect access to information either positively or negatively.

This workshop will help participants workshop their healthcare materials and their own writing style. We will practice strategies that streamline the writing process, including studying the impacts of word choice, word order, and voice in writing. Participants will receive an overview of high-value writing, with an application to health fields specifically. By the end of this workshop, participants will be able to edit their own documents and writing to increase reader comprehension and access.

*Keywords: writing; access; literacy; word choice; plain language*



## Workshop 4, Oct. 5th (Tue.) 11:00-12:30

Topic: Health literacy in professional training and performance (incl Medical / Health Professions Schools, Occupational therapy etc.)

Abstract No: 13283

### **Integrating patient partner stories in health literacy trainings at the University Health Network**

Sophia Wong<sup>\*1</sup> ; Farrah Schwartz<sup>\*1</sup>

<sup>1</sup>*Patient Education and Engagement/ University Health Network/ Canada*

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Incorporating patient stories into education for healthcare providers engages learners and builds more meaning into the curriculum. At University Health Network (UHN), we developed 4 patient stories video series that were integrated into training for healthcare providers. This workshop will build participants' knowledge of the benefits of incorporating patient stories into their health literacy education and gain strategies to do so effectively.

Objectives:

Participants will be able to:

- Describe the benefit of incorporating authentic patient stories into education for healthcare providers
- Formulate meaningful patient stories to achieve valuable impact
- Identify 1-3 effective ways to integrate patient stories into education for healthcare providers

Outline:

A. Background (5m)

- describe the University Health Network as a multi-hospital system, and the ways in which Patient Education and Engagement support the hospital's clinical care
- describe the Patient Partnerships Program and several ways that Patient Partners are integrated into hospital decision-making and quality improvement

B. Story telling (10m)

- Discuss the goals and purpose of storytelling, what makes a good story in healthcare, and planning for patient storytelling

C. Developing and integrating patient stories (10m)

- Share the background of how patient stories were integrated into teaching before the videos were available and how we worked with Patient Partners to generate their stories
- Describe our goals of reflecting equity and inclusion in the videos and further opportunities to reflect inclusion
- Sharing one of the patient videos

D. First breakout session (20m)

Think of a patient story, how can you make this meaningful and integrate into your patient education materials?

E. Debrief (10m)

F. Integrating patient stories in health literacy trainings (5m)

- Summarize how we've integrated the patient videos into health literacy trainings across the organization
- Share evaluation results to show how patient partners impact healthcare providers' learnings

G. Breakout Session 2 (10m)

What are some ideas you have on how to best incorporate your patient stories to achieve your teaching goals?

H. Debrief (10m)

I. Q and A (5m)

*Keywords: health literacy; patient partner; patient stories; storytelling; patient videos*

## Symposium 6, Oct. 5th (Tue.) 11:00-12:30

Topic: Health literacy and sustainability  
Abstract No: 13430

### Oral health literacy and the SDGs. Pathways to sustainable healthy social practices

Claudio Fernandes<sup>\*1</sup> ; Monica Pinheiro Fernandes<sup>2</sup> ; Julian Fisher<sup>\*3</sup> ; Orlando Monteiro da Silva<sup>\*4</sup> ; Gerhard Seeberger<sup>\*5</sup> ; Guglielmo Campus<sup>\*6</sup> ; Wensheng Rong<sup>\*7</sup> ; Paula Ahing<sup>\*8</sup> ; Liana Freitas-Fernandes<sup>9</sup>

<sup>1</sup>Vice Presidency of Education/ Academy of Dentistry International/ Brazil (Brasil), <sup>2</sup>Multidisciplinary Institute of Education/ Rio de Janeiro Rural Federal University/ Brazil (Brasil), <sup>3</sup>Oral Diagnostics, Digital Health and Health Services Research / Charite University Berlin/ Germany (Deutschland), <sup>4</sup>Immediate Past Presidency/ Portuguese Dental Association/ Portugal, <sup>5</sup>Immediate Past Presidency/ Academy of Dentistry International/ Italy (Italia), <sup>6</sup>WHO Collaborating Centre for Epidemiology and Community Dentistry/ H.S. Paolo University of Milan/ Italy (Italia), <sup>7</sup>Preventive Dentistry/ Peking University School of Stomatology/ China (中國), <sup>8</sup>Immediate Past Presidency/ Mozambique Dental Association/ Mozambique (Moçambique), <sup>9</sup>Pedodontics/ Rio de Janeiro Federal University/ Brazil (Brasil)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### **General objective:**

The symposium is an initiative of the Academy of Dentistry International, a global institution committed to sustainability for the advance of socially responsible issues. The aim is to present an updated overview of health literacy matters related to oral health. Keynote lectures will guide participants, starting with a critical analysis of the global burden of disease studies that place dental caries and periodontal disease among the 6 top diseases in the world. Understand that the effectiveness of school-based programs to promote individual habits may show disappointing long-term effects. Recognize the settings for adequate application of data assessment tools for research accuracy. Describes the role of oral health literacy and relationships with elements of universal health coverage. Includes how workforce health literacy reaches beyond health professions, as other members of the care system are also needed to assess and maintain health care, such as social workers. Demonstrate that applying social practice theory may be an alternative path, as health and wellbeing are outcomes of participating in a set of social practices, rather than the result of individual behaviors. Finally, innovative programs that renew health education models integrating oral health social practices in the school literacy program, such as teeth exfoliation/eruption and oral hygiene may be conducive to the introduction of autonomous health practices.

**Format:** 90 min session composed of chairperson opening remarks (5 min), five keynote lectures (10 min each), discussion moderated by the chairperson (30 min), while a rapporteur presents the conclusions (5 min):

1. Global burden of oral diseases. Orlando Monteiro da Silva
2. Research assessment tools. Wensheng Rong
3. Oral Health literacy is key for universal health coverage. Yuka Makino
4. Challenges in interprofessional communication. Julian Fisher
5. Educational programs to promote sustainable healthy social practices. Claudio Fernandes

##### **Learning objectives:**

Participants will be able to:

- Understand the relationship of the global burden of oral diseases and health literacy
- Recognize current challenges for assessment tools
- Realize the role of oral health literacy in universal health coverage
- Identify vulnerabilities in interprofessional communication regarding oral health.
- Discover innovative health literacy programs based on oral health social practices

**Keywords:** Oral health literacy, sustainability, health promoting schools, UHC

## Symposium 7, Oct. 5th (Tue.) 11:00-12:30

Topic: Health literacy and COVID-19  
Abstract No: 13346

### **HLS-COVID-19: A representative trend study on COVID-19-specific health literacy in three European countries**

Orkan Okan<sup>\*1</sup> ; Torsten Michael Bollweg <sup>\*1</sup> ; Robert Griebler <sup>\*1</sup> ; Saskia Maria De Gani <sup>\*2</sup> ; Ullrich Bauer<sup>1</sup> ; Klaus Hurrelmann<sup>3</sup> ; Doris Schaeffer<sup>1</sup>

<sup>1</sup>Interdisciplinary Centre for Health Literacy Research/ Bielefeld University/ Germany (Deutschland), <sup>1</sup>Health, Society and Equity/ Gesundheit Österreich GmbH/ Austria (Österreich), <sup>2</sup>Health Literacy Division/ Careum Foundation/ Switzerland (Schweiz) <sup>3</sup>Public Health and Education / Hertie School Berlin/ Germany (Deutschland)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### **Objectives**

Health literacy (HL) plays a key role during the COVID-19 pandemic by helping people make personal risk assessments and distinguish between trustworthy health messages and misinformation. HL also empowers people to access information sources, broaden their knowledge about SARS-CoV-2, and to understand and apply behavioral recommendations. The aim of this study was to assess the COVID-19-specific HL of the general population (aged 16+ years) in Germany, Austria, and Switzerland during the pandemic.

##### **Methods**

A trend study was conducted as an online survey in all three countries using a new measure. The sample is representative regarding age, sex, education and place of residence. Data was collected at three measurement points in 2020: t0 (N<sub>GER</sub>=1037; N<sub>CH</sub>=1012; N<sub>AT</sub>=1.295; Mar/Apr), t1 (N<sub>GER</sub>=1021; N<sub>CH</sub>=1026; N<sub>AT</sub>=1.185; Sep/Oct), and t2 (N<sub>GER</sub>=1036; N<sub>CH</sub>=1018; N<sub>AT</sub>=1.020; Nov/Dec). The focus was to describe trends in HL, using descriptive statistics, bivariate and multivariate analyses.

##### **Activities**

This symposium comprises three presentations. Each presenter will give a presentation (10-15 min incl. Q&A), followed by open and audience-driven discussion about health literacy and its role during public health emergencies.

##### **Results**

During 2020, improvements in COVID-19-specific HL were observed. However, appraising the reliability of health information remains to be the greatest challenge (t0–t2). At t2, it is hardest for people to judge if media information on COVID-19 is trustworthy, and more than 1/3 of the population has low COVID-19-specific HL, which is related to various adverse outcomes. People with low HL (1) feel less-informed, (2) are more likely to be confused by the amount of information, (3) are less likely to engage in preventive behaviors, and (4) more often doubt the effectiveness of preventive behaviors, including vaccination readiness and hesitancy.

##### **Conclusion**

We attribute the improvements in HL mainly to effective communication strategies during the pandemic, with key recommendations on preventive measures being easy-to-understand and easy-to-apply. However, it will be important to further strengthen HL, and to reinforce positive behaviors that can be implemented by everyone. Critical thinking in relation to online health information and media sources needs to be focused by policy and practice.

*Keywords: Health literacy, COVID-19, trend study, infodemic*



**Oral Presentation: Session Oral 13 Mental health literacy and special needs  
Oct. 5th (Tue.) 13:30-15:00**

Topic: Health literacy across the lifespan  
Abstract No: 13299

**Decrease in health literacy predicted by increasing age among colorectal patients in the Deep South**

Connie Shao<sup>1</sup>; Marshall McLeod<sup>1</sup>; Lauren Theiss<sup>1</sup>; Isabel Marques<sup>1</sup>; Daniel Chu<sup>1</sup>  
<sup>1</sup>Surgery/ University of Alabama at Birmingham/ United States

**Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Limited health literacy has been linked to poor outcomes in many chronic medical conditions. Among surgical populations, over one third of patients may be impacted by limited health literacy. Our study focused on colorectal surgery, known for its high risk of poor surgical outcomes, racially diverse population in the Deep South, and low national literacy ranking. Our objective was to characterize factors contributing to lower health literacy.

The 4-item Brief Health Literacy Screen (BRIEF) instrument is a well-validated screening tool ranging from 4 to 20, interpreted as limited(4-12), marginal(13-16), and adequate(17-20). It was administered by clinic staff during routine intake at a high volume, tertiary care colorectal surgery clinic in Birmingham, AL since 2018. Changes in health literacy over time for each patient were compared by age, race, sex, and median income by ZIP code.

Among all charted scores (n=2,163), the mean was 18 (SD=3.3) with 83.4% scoring "Adequate" (n=1,586), 6.7% scoring "Limited" (n=127), and 9.9% scoring Marginal (n=188). On unadjusted analysis, BRIEF score was negatively associated with age ( $p<0.001$ ) with a correlation of -0.12, and higher among female (n=682, mean=18.2, SD=0.13) compared to male (n=577, mean=17.8, SD=0.14) ( $p=0.02$ ) patients. By race, health literacy was highest among white (n=879, mean=18.2, SD=0.11) and Black (n=329, mean=17.8, SD=0.19) patients and lowest among Asian (n=20, mean=16.3, SD=0.75) and Native American (n=8, mean=13.9, SD=1.2) patients ( $p<0.0001$ ). Median income of the patient's ZIP code had a positive correlation with BRIEF score by 0.077 ( $p<0.0001$ ). Among patients who had multiple BRIEF scores (n=1,208), 5.5% had a decrease in score (n=66), 85% had no change (n=1,028), and 9.4% had an increase (n=114). Patients whose scores increased were younger (mean=51.6yr, SD=15.6) than those without change (mean=54.2yr, SD=16.1). Both were younger than those whose score decreased (mean=60.8, SD=13.8) ( $p<0.001$ ).

Low health literacy has been shown to lead to high rates of complications and readmissions after surgery. This study shows that health literacy is lower among Asian, Native American, lower income area, and older patients. With literacy declining significantly with age, this calls for multi-level interventions targeting elderly patients to improve their understanding and interaction with the healthcare system.

*Keywords: colorectal; surgery; aging; literacy; america*

Topic: Health literacy and cultural appropriateness  
Abstract No: 13306

## Health Literacy assessment amongst indigenous Sesotho-speaking patients with end-stage renal disease in South Africa

Elsabet Van Rensburg<sup>1</sup> ; Marianne Reid<sup>1</sup> ; Melanie Pienaar<sup>1</sup> ; Riette Nel<sup>1</sup>  
<sup>1</sup>Nursing/ University of the Free State/ South Africa

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### • *Introduction/Background/Problem*

Sesotho is one of South Africa's indigenous languages, and is spoken by the majority of the population in the Free State province of South Africa. The general health literacy status of patients diagnosed with end-stage renal disease (ESRD) in this province is unknown, creating a void in managing the disease optimally.

#### • *Description of Objectives/Methods/Intervention*

The objectives were to establish the health literacy association between Sesotho-speaking patients with ESRD who received haemo- and peritoneal dialysis at private and public dialysis centres. This multi-centre, cross-sectional study, utilised the Sesotho Health Literacy Test (SHLT), focusing on appraisal and understanding of information, to assess health literacy levels. Associations between the health literacy levels of patients and demographic variables were calculated. Patients (N=420; n=263) receiving haemodialysis and peritoneal dialysis in private (n=6) and public (n=4) healthcare sectors in four towns of the Free State province were included. Frequencies and percentages for categorical data, and medians and percentiles for numerical data, were calculated per group utilising the Chi-square or Fisher's exact tests for categorical data, and the Kruskal-Wallis test for numerical data.

#### • *Results (effects/impact/changes)*

Within the private / public sectors, respondents (n=263) received haemodialysis (n=109; n=88) and peritoneal dialysis (n=3; n=63). No statistical significant associations were found between the health literacy levels of haemo- and peritoneal dialysis patients ( $p=0.80$ ), or between the two healthcare sector groups ( $p=0.58$ ). Respondents presented with low (12.9%) and moderate (49.4%) health literacy levels. A statistical significant association was reported between lower health literacy levels and the scores obtained in appraisal and understanding questions ( $p<0.01$ ). ESRD patients' education level was the only demographic variable significantly associated ( $p<0.01$ ) with limited health literacy levels.

#### • *Discussions/Conclusions/Lessons learned*

The SHLT was applicable for assessing the general health literacy of Sesotho speaking ESRD patients. The majority of patients obtained a less than desirable health literacy score, necessitating healthcare workers to recognise these patients' potential difficulty to adapt to, manage, and understand ESRD complexities. Health outcomes and self-management of Sesotho speaking ESRD patients may improve if their health literacy levels are known.

*Keywords: Sesotho Health Literacy Test; end-stage renal disease; context; cultural; South Africa*



Topic: Mental health literacy  
Abstract No: 13460

## Informative texts on Post-Traumatic Stress Disorder: analysis of text complexity and guidelines for simple writing

Asafe Davi Cortina Silva<sup>\*1</sup> ; Heloísa Orsi Koch Delgado<sup>\*2</sup>

<sup>1</sup>Modern Languages/ Pontifical University of Rio Grande do Sul/ Brazil (Brasil), <sup>2</sup>Professor at the Post-Graduation Program / La Salle University/ Brazil (Brasil)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The presentation will outline the conceptual framework, methodology, and research design of the thesis study entitled **Informative texts on Post-Traumatic Stress Disorder written for laypeople: alternatives for textual and terminological accessibility**. The study analyzed the complexity of texts written in Brazilian Portuguese and verified the efficiency of simplification strategies suggested by the authors. Regarding theory, they used concepts of Plain Language, Natural Language Processing, and Corpus Linguistics. As for methodology, they analyzed the language metrics collected through Coh-Metrix Dementia; among the indexes analyzed were the Flesch Index, type/token ratio, latent semantic analysis, and lexical density. They also used the multidimensional approach to verify the different complexity levels for laypeople with a low education level. Results indicated that the texts are potentially complex for the intended readers: they show a broad range of vocabulary (which is not adequate for the implied reader) and specialized terminology. The texts are considered highly complex regarding semantics and language structure, and unneeded information. The authors suggested and analyzed a series of simplification guidelines concerning text syntax and lexicon, which provided evidence that the efficiency simplification rate was high through data quality metrics. Some of the recommendations include finding the reader profile, using simpler words, organizing ideas by topics, reducing adjectives and adverbs, avoiding long sentences and paragraphs, eliminating remissive information and unnecessary information. The lecture will also show that the guidelines proposed can be applied to English texts by comparing excerpts of the same text genre and providing ways to make them plain and objective to implied readers.

1 Asafe Cortina - Ph.D. student in Linguistics (the Pontifical Catholic University of Rio Grande do Sul, PGP-Linguistics, Porto Alegre, RS) [asafe.davi@pucrs.br](mailto:asafe.davi@pucrs.br)

2 Heloísa Delgado - Ph.D. in Language Studies (the Federal University of Rio Grande do Sul, PGP- Linguistics, Porto Alegre, RS) [helois@maish.com](mailto:helois@maish.com)

*Keywords: Accessible scientific writing. Natural Language Processing. Simplified writing. Coh-Metrix Dementia.*

Topic: Mental health literacy  
Abstract No: 13264

## Health Literacy Issues of Parents Seeking Information on Autism Spectrum Disorder Around Time of Diagnosis

Alena Valderrama<sup>1</sup> ; Isabelle Courcy<sup>2</sup> ; Baudouin Forgeot d'Arc<sup>3</sup> ; Lindsay Weis-Heitner<sup>4</sup>

<sup>1</sup>Département de médecine sociale et préventive, / CHU Sainte-Justine, Research center of CHU Sainte-Justine, École de santé publique de l'Université de Montréal/ Canada, <sup>2</sup>Sociology/ Université de Québec à Montréal/ Canada, <sup>3</sup>Département de Psychiatrie/ Université de Montréal, Research center CHU Sainte-Justine/ Canada, <sup>4</sup>Médecine sociale et préventive/ École de santé publique de l'Université de Montréal/ Canada

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Informing parents whose child has just been diagnosed with Autism Spectrum Disorder (ASD) is a major challenge. The purpose of this research is to identify the informational needs of parents of children recently diagnosed with ASD as well as the barriers and facilitators encountered in their search for information. Qualitative research using the focus group method was conducted with three groups of parents of young children or adolescents diagnosed with ASD within the last two years. Parents were recruited through a hospital clinic. Two groups were parents with one or more risk factors related to low health literacy: single parenthood, low level of schooling, unemployment, recent immigration. A qualitative content analysis was conducted to explore the process of searching for information on autism. Based on the theoretical framework of health literacy, various components were analyzed in terms of access, understanding, interpretation, and use of information for decision-making. The results display that there is a general lack of information on autism, as well as concerns about the quality of the information found on the Internet. All parents expressed difficulty understanding the information they found on their own or in the resources, they were offered. They also shared a desire to access sources of information that present autism in a positive way. The use of information for decision-making was limited. In addition, the obstacles encountered while searching for information revealed the importance of social support. Many of the parents reported feeling stigmatized and judged by others because of their child's behavior. In this first research about this subject, the results demonstrate the need to respond to the real informational needs of parents and to adapt the resources used during the diagnosis period, particularly for those with lower literacy levels. In addition, the way of communicating about the diagnosis needs to be reviewed. In order to address these literacy issues, it is important to offer various forms of social support in combination with informational support. In order to reduce psychological distress, it is necessary to provide support when announcing the diagnosis and raise awareness about autism to reduce the stigma experienced by autistic persons and their loved ones.

*Keywords: autism, diagnosis, health literacy, parents, social support*

Topic: Mental health literacy  
Abstract No: 13427

## **How do people with lived experience of mental health issues want health and community services to respond to them?**

Shandell Elmer<sup>\*1</sup> ; Richard H Osborne<sup>1</sup> ; Roy Batterham<sup>1</sup>  
<sup>1</sup>*School of Health Sciences/ Swinburne University of Technology/ Australia*

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### Introduction

People with lived experience of mental health issues may encounter challenges when accessing health information and services. Diagnostic overshadowing is common; and their health-seeking journey may be a myriad of disjointed episodes of care and support. Understanding what is needed to be mental health literacy responsive requires a focus on what health and community services need to do to respond to the needs of the diverse people and groups in the community.

#### Methods

The Ophelia (Optimising Health Literacy and Access) process was applied to conduct a needs assessment, co-design, implement and evaluate strategies to improve mental health literacy responsiveness. Locally collected health literacy data and data from the National Health Survey (Australian Bureau of Statistics 2018) were analysed to inform the development of 13 vignettes representative of the mental health literacy profiles identified. These vignettes were used to generate discussion within online workshops held with people with lived experience and service providers. Their ideas to improve mental health literacy responsiveness were thematically analysed into eleven action areas. Primary Health Networks led the co-design of strategies to address these action areas according to local priorities.

#### Results

People with lived experience of mental health issues expressed the need to have sufficient supportive people around them and encouragement to act quickly when they think that something is “not quite right”. They also need to be able to trust health providers.

Health and community services need to provide access to support and services in ways that are friendly and flexible (not bureaucratic, complex and judgemental). Service providers need to listen and explain respectfully; and admit when they are unable to help and refer on. There needs to be assistance to connect people with community supports, not just for problems, but also for enjoyment of life.

#### Lessons learned

Building health system responsiveness needs to start with understanding the needs of people with lived experience. Using the Ophelia process identified these actions are needed for mental health literacy responsiveness:

- Connection between health services and the community;
- Accessing help at the right time in easy, friendly ways; and
- Training and capacity-building in health and community services.

*Keywords: mental health literacy responsiveness; lived experience; Ophelia; mental health services; experience based co-design*

Topic: Mental health literacy  
Abstract No: 13307

## Mental health literacy among Arab Palestinian students in Israel

Efrat Neter<sup>\*1</sup> ; Noor Abo-Ras <sup>1</sup> ; Refael Youngmann  
<sup>1</sup>*Behavioral Sciences/ Ruppin Academic Center/ Israel (ישראל)*

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Mental Health Literacy (MHL) refers to people's knowledge and beliefs about mental conditions. It facilitates the recognition, management and prevention of morbidity. Palestinian population in Israel is at-risk to mental illness due to its minority status, therefore the acute relevance of MHL.

**Aims:** Examine mental health literacy, as expressed in identifying distress situations, beliefs on potential helpers, first aid and appropriate interventions; examine information sources on mental health among students in the Palestinian population in Israel

**Methods:** A cross-sectional survey in Arabic was administered to a convenience sample of 306 students in different tertiary education institutions in Israel. Case studies of depression and post-traumatic disorder (PTSD) from the Australian National Literacy Survey of mental health and Stigma were adapted to the local context. Respondents were asked to identify the condition and indicate suitable potential helpers, first aid and interventions, as well as report on their information sources on mental health.

**Results:** About half of the participants identified correctly the depression case and 76.8% the PTSD case. Professional providers were judged to be suitable for referral (physician, psychologist and counselor) while non-professional sources (family, teacher, cleric, friend) were judged to be less suitable. A vast majority of participants (78.4%) reported that they use the Internet as a major source of information on mental health.

**Discussion:** This is a first documentation of MHL among young educated adults in the Palestinian population in Israel. Under-detection of depression may delay or altogether abstain from help-seeking for oneself or fail to provide assistance to others. Young adults should be informed about the potential consequences of delaying treatment for mental conditions. Counseling programs for Palestinian students at tertiary education in Israel should be fostered and culturally sensitive community mental health services should be further bolstered in Health Maintenance Organizations.

*Keywords: Literacy, Mental Health, Students, Palestinian society, Minority.*

## Oral Presentation: Session Oral 14 Health literacy, migration and cultural appropriateness Oct. 5th (Tue.) 13:30-15:00

Topic: Health literacy and cultural appropriateness  
Abstract No: 13311

### Investigating dementia literacy among racially minoritized people in a Chinese society: A qualitative study

Angela YM Leung<sup>1</sup> ; Laurence Lloyd Parial<sup>1\*</sup> ; Padmore Adusei Amoah<sup>2</sup> ; Karrie Chan<sup>3</sup> ; Daniel WL Lai<sup>4</sup>

<sup>1</sup>Centre for Gerontological Nursing, School of Nursing/ The Hong Kong Polytechnic University/ Hong Kong (香港), <sup>2</sup>School of Graduate Studies; Asia Pacific Institute of Ageing Studies; Centre for Social Policy and Social Change/ Lingnan University/ Hong Kong (香港), <sup>3</sup>Elderly, Rehabilitation, and Community/ Hong Kong Christian Service/ Hong Kong (香港), <sup>4</sup>Faculty of Social Sciences/ Hong Kong Baptist University/ Hong Kong (香港)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Objectives:** Racially minoritized populations are vulnerable to suffer from dementia, aside from experiencing health and resource disparities. However, research about dementia literacy of minoritized people in Chinese society is scarce, while dementia cases have been escalating. This study aimed to explore how minoritized groups understand dementia and its causal attributions, and what actions they intend to take if their family members are suspected of having dementia.

**Methods:** Qualitative-descriptive study design was used to delineate the understanding and beliefs about dementia from three minoritized groups (Indians, Pakistanis, and Nepalis) in Hong Kong. Focus group and individual interviews were conducted with a sample of 38 participants from December 2019 to February 2020. Thematic analysis was used to categorize the data and identify themes from the transcribed interviews.

**Results:** Five key themes were identified: *normalization versus stigmatization of dementia; socio-spiritual versus biomedical attributions of dementia; familial responsibility versus potential caregiving burden; uncertainties versus openness to professional care; and barriers versus opportunities in dementia literacy.* Minoritized people recognized dementia either as a disease of normal aging or a stigmatizing mental disorder. Spiritual and psychosocial factors were perceived as key causes of cognitive decline, although health education influenced perceptions of dementia as a medical condition. Participants stressed that families were the first point of help-seeking because of their filial responsibilities, but they also expressed the potential burden of dementia caregiving. Contrasting feelings of confidence or doubt towards professional services also surfaced. While information and language barriers existed in promoting dementia literacy, various strategies could be utilized to address these concerns.

**Conclusion:** Racially minoritized people in Hong Kong encountered difficulties to understand dementia and how to seek community services. While culture influenced their beliefs, health education was a potential buffer to correct their misperceptions and help-seeking behaviors. Support strategies could address family concerns in providing care to older people who may experience cognitive impairments. There is also a need to develop culture- and language-specific programs to improve their knowledge about dementia and health service access.

**Funding:** Hong Kong Polytechnic University - Faculty of Health and Social Sciences Collaborative Research Fund (Project No.: P0031062)

**Keywords:** Chinese; dementia literacy; ethnic minorities; mental health



Topic: Health literacy and vaccination  
Abstract No: 13410

## Vaccines for Global Community Prevention: A Pilot Lesson for Non-formal Adult Education

Chien-Chi Huang<sup>\*1</sup> ; Jonathan Jackson<sup>\*2</sup> ; Amy Hsu<sup>\*1</sup> ; Sabrina Kurtz-Rossi<sup>\*1</sup>

<sup>1</sup>Non-governmental organization/ Asian Women for Health / United States, <sup>2</sup>Partners/ Massachusetts General Hospital / United States <sup>1</sup>Public Health and Community Medicine/ Tufts University School of Medicine / United States

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Hepatitis B is preventable disease that especially impacts immigrant populations in the United States. At the same time, the COVID-19 pandemic continues to threaten people's lives. Vaccines play a role in preventing these and other diseases and presently dominates the news. Recent outbreaks of measles in New York and other cities in America are due to mistrust of the healthcare system, as well as literacy and language barriers. Vaccine hesitancy is a growing problem that threatens global community protection against COVID-19, Hepatitis B and other preventable diseases.

The primary goal of the EduAsians Hep B project is to launch and sustain a Hepatitis B prevention coalition in Boston by embedding health literacy lessons surrounding Hepatitis B, and COVID-19 into English for speakers of other languages (ESOL) classes. Research demonstrates, introducing health topics in settings heavily utilized by immigrant populations has been shown in to increase knowledge and action among individual English language learners and the broader community. While an effective public health promotion strategy, this work has not yet been broadly implemented limiting the cumulative impact of sustained access to health information in a robustly supported environment.

Lessons are designed to engage learners in dialogue and reflection to create a safe space where adult learners from diverse background can share their knowledge, formulate questions, and identify where they can go to learn more. Collaborators meet once a month to review and brainstorm ways to create comprehensive yet level-appropriate lessons that will most benefit adult English language learners and the broader immigrant community. Researchers will present results of surveys administered at monthly meetings and the process of pilot testing the lessons in community-based settings.

The EduAsians Hep B project is a collaboration between community based ESOL providing organizations, Asian Women for Health advocacy organization, and experts in Hepatitis B prevention and treatment and education and lesson plan development from Tufts Medical Center, Beth Israel Deaconess Medical Center, and Massachusetts General Hospital.



Topic: Health literacy, immigration and migration  
Abstract No: 13382

## **Adaptation of the Ophelia (Optimising Health Literacy and Access) process to address the health literacy needs of refugees and migrants**

Zaman Jawahar<sup>1</sup> ; Shandell Elmer<sup>1</sup> ; Melanie Hawkins<sup>1</sup> ; Richard H Osborne<sup>1</sup>

<sup>1</sup>Department of Health Sciences and Biostatistics / Swinburne University of Technology/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

Refugees and migrants experience health inequalities resulting from multiple barriers to access and engagement with services. For most migrants, the transition to unfamiliar environments is difficult, especially without culturally and linguistically sensitive services. Health literacy development approaches can be used to support diverse communities to have greater agency to manage their own health and the health of their families. The Ophelia (Optimising Health Literacy and Access) process uses health literacy thinking to co-design, prioritise, and implement locally designed actions that respond to the identified specific health literacy strengths, needs and preferences. This project aims to strengthen the Ophelia process for application within diverse migrant/refugee groups and organisations.

#### **Methods**

A qualitative participatory action research design will be employed to identify and respond to the diverse health literacy needs of refugees and migrants. Semi-structured interviews will be conducted using the Conversational Health Literacy and Assessment Tool (CHAT) to identify the health literacy needs and strengths of refugees and migrants. The qualitative data will be thematically analysed. Themes and subthemes will be grouped under the nine domains of the Health Literacy Questionnaire (HLQ). The data will be synthesised to generate vignettes (short stories) of the typical groups of people. The vignettes will be presented to community members and direct service providers in ideas generation workshops, which allow them to co-design ideas to improve health and services.

#### **Impacts**

The study is identifying factors from migrant/refugee and service provider perspectives that affect the ability of these communities to equitably and successfully engage in health services. Culturally and linguistically appropriate interventions will be co-designed to respond to identified health needs. The widely applied Ophelia process, including with migrants, currently relies on the HLQ. This study provides early evidence that Ophelia can be more rapidly and equitably applied using a structured qualitative approach to generating vignettes.

#### **Conclusions**

Health literacy is contextually specific. Different individuals and communities have different ways, beliefs, abilities, and motivations to make health choices. The Ophelia process creates a platform for refugees and migrants to voice their health literacy needs, be heard and acknowledged by others, and be active co-designers of solutions.

*Keywords: Health literacy; co-design; health inequalities; refugee's and migrant's health*

Topic: Health literacy, immigration and migration  
Abstract No: 13448

## Health literacy among migrants of Turkish and Former Soviet Union origin in Germany - first results of the HLS-MIG study

Eva-Maria Berens<sup>1</sup> ; Julia Klinger<sup>2</sup> ; Monika Mensing<sup>1</sup> ; Sarah Carol<sup>3</sup> ; Doris Schaeffer<sup>1</sup>

<sup>1</sup>Interdisciplinary Center for Health Literacy Research/ Bielefeld University/ Germany (Deutschland), <sup>2</sup>Institute of Sociology and Social Psychology / University of Cologne/ Germany (Deutschland), <sup>3</sup>School of Sociology/ University College Dublin / Ireland

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Objectives:** Health literacy is considered an important determinant for health and well-being. Previous studies indicate considerable social disparities regarding health literacy internationally and in Germany. Migrant populations are mostly regarded as a vulnerable group with low health literacy. However, in-depth data on health literacy among migrants, representing more than a quarter of Germany's population, are still scarce. Therefore the analysis presents first time data on health literacy among migrants of Turkish and Former Soviet Union origin in Germany, considering social and migration-related factors.

**Material and Methods:** Data from the HLS-MIG Study, which is closely related to the second representative German Study on Health Literacy 2020 (HLS-GER 2), were used. Adults from the two largest migrant groups, with Turkish- (n=512) and Russian-speaking background (n=525), were recruited via quota sampling and interviewed face-to-face in German, Turkish or Russian in late summer 2020. Health literacy was measured using the HLS<sub>19</sub>-Q47. Data analyses comprised bi- and multivariate analyses, stratified by the two migrant groups including socio-demographic and migrant-specific determinants.

**Results:** More than half of the participants in both groups report limited Health Literacy, thus they assess most of the health-related tasks of HLS<sub>19</sub>-Q47 as difficult. Evaluating health information is the most difficult information step for both groups. Health literacy underlies a demographic and social gradient among both groups. Additionally, migrant-specific aspects such as German language skills correlate with health literacy.

**Conclusions:** Health Literacy is not per se low among migrant populations. It differs considerably by social, demographic and migrant-specific aspects among migrants of Turkish or Former Soviet Union origin in Germany. Health literacy research needs to take the heterogeneity of migrant populations better into account. There is a need for more in-depth studies and detailed analyses of different migrant populations. The deficit-oriented perspective in migrant Health Literacy research and intervention planning should be complemented by a resource-oriented perspective.

**Keywords:** immigrants, HLS19-Q47, Germany, Former Soviet Union, Turkey, general health literacy, determinants

Topic: Health literacy, immigration and migration  
Abstract No: 13334

## The MILSA project's training for cultural mediators on mental health and well-being - a way to increase mental health literacy.

Josefin Wångdahl<sup>1</sup> ; Katarina Engström<sup>1</sup> ; Eva Åkerman<sup>1</sup>

<sup>1</sup>Department of Public Health and Caring Sciences/ Uppsala University/ Sweden (Sverige)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Many newly arrived refugees have poor mental health and limited health knowledge, which can make it difficult to establish themselves in a new country. In a Swedish national EU project cultural mediators who works with civic- and health communication for newly arrived refugees were trained to become study circle leaders in mental health. After the 6-day in-depth course on mental health and well-being they will run such circles within the establishment program for refugees in Sweden.

**Methods/objective:** The aim of the study was to examine what the cultural mediators perceived that they learned through participation in the course. A qualitative study where data was collected through ten individual interviews with cultural mediators who participated in the course on mental health and well-being in the year 2020. A semi-structured interview guide was used, the interviews recorded and then transcribed verbatim. Thereafter analysed through thematic analysis.

**Results:** Two themes - theoretical and practical knowledge – were found. Theoretical knowledge consisted of three subthemes: In-depth knowledge and increased understanding of mental health, New specific facts knowledge, and How to obtain and assess health information. Practical knowledge consisted of two subthemes: Increased knowledge of practical exercises and methods, and How to assess participants' mood, respond and guide.

**Conclusion:** Participation in the education contributes to increased knowledge, reflection, practical skills and confidence regarding promotion of mental health of newly arrived refugees at group level, i.e. to increased mental health literacy.

*Keywords: Refugee; migrant; health communication; mental health; health literacy*

Topic: Health literacy, immigration and migration  
Abstract No: 13333

## Improving health literacy of refugees: A qualitative assessment of using the Swedish "Teach-back" method at group level.

Josefin Wångdahl<sup>1</sup> ; Helge Drebold<sup>1</sup>

<sup>1</sup>Department of Public Health and Caring Sciences/ Uppsala University/ Sweden (Sverige) <sup>1</sup>International Maternal and Child Health (IMCH) , Department of Women's and Children's Health/ Uppsala University/ Sweden (Sverige)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Refugees report poorer health compared to host populations and studies indicate an underutilization of healthcare services among refugees. In Sweden, a course in civic orientation is offered to all newly arrived refugees in order to facilitate their establishment, but also to help them make rational and informed health choices. The course is given at group level and most commonly in the refugees' mother tongue. However, an evaluation of the civic orientation indicates that refugees with different health literacy levels do not benefit from it to the same extent. To address this, the "Teach-back Method" has been taught to approximately 200 cultural mediators within the EU project "MILSA training platform for civic and health communication".

**Objective and method:** The aim of the study was to investigate perceptions of cultural mediators in implementing a Swedish version of the "teach-back method" for improved health information recall – *Förstå Mig Rätt (FMR)* – in the Swedish civic orientation for newly arrived refugees. Data was collected through semi-structured interviews and analysed by content analysis. Deriving from a holistic view of health, Sørensen's integrated model for health literacy guided the discussion in examining how FMR contributed to improved health literacy.

**Findings:** Three themes emerged from the data: (i) Appreciating the impact of FMR; (ii) valuing the role of a communicator and; (iii) practical challenges of implementing FMR. The findings demonstrated an overall appreciation for FMR as it empowered the communicators with the ability to discover misunderstandings easier. Nevertheless, it was sometimes perceived as challenging to ask the refugees to retell information and some refugees even expressed feelings of insult. Lack of time and struggle to adapt information to fit all also generated concerns.

**Conclusion:** FMR serves its purpose of ensuring recall and understanding of health information among newly arrived refugees attending the Swedish civic orientation. Specifically, FMR makes its largest contribution to health literacy improvements in the second competence outlined by Sørensen's model (understanding). However, for optimal utilization, groups should be adjusted for participant educational level while further clarification on *when* the second and third phase of the teach-back concept should transpire, is recommended.

**Keywords:** *Teach-back, Cultural mediators, Refugees, Migrants, Health communication*



Topic: Health literacy, immigration and migration  
Abstract No: 13420

## International collaboration: adaptation of the Health Literacy Survey<sup>19</sup> questionnaire for Russian-speaking immigrants

Maria Lopatina<sup>1</sup> ; Julia Klinger<sup>2\*</sup> ; Eva-Maria Berens<sup>3</sup> ; Uliana Kostareva<sup>4</sup> ; Altyn Aringazina<sup>5</sup>

<sup>1</sup>Public Health / National Medical Research Center for Therapy and Preventive Medicine / Russian Federation, <sup>2</sup>University of Cologne/ University of Cologne/ Germany (Deutschland), <sup>3</sup>School of Public Health/ Bielefeld University/ Germany (Deutschland), <sup>4</sup>School of Nursing and Dental Hygiene/ University of Hawai'i at Mānoa/ United States, <sup>5</sup>School of Public Health/ Kazakhstan Medical University/ Kazakhstan (Казакхстан)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

Immigrants from the former Soviet Union (FSU), most are Russian speaking, comprise large and important population groups in several host countries, e.g. Germany or the United States (US). However, there is a paucity of literature about the health literacy (HL) of Russian-speaking FSU immigrants.

#### **Objective**

The purpose of this work was to adapt the HLS<sub>19</sub> questionnaire developed within the WHO Measuring Population and Organizational Health Literacy Network into the Russian language to study the health literacy in Russian-speaking immigrants in Germany and the US.

#### **Methods**

First, the German version of the HLS<sub>19</sub> questionnaire was translated into Russian by two professional translators. Second, three native Russian speakers with HL expertise from different countries, including Russia, Kazakhstan, and the US performed four rounds of reviews. At first, two variants of translations made by professional translators from German into Russian were critically reviewed, compared to their local translations, and revised by the Russian-speaking experts. Each expert provided insights in English to the German research team, the questionnaire was then evaluated and edited until full concordance was reached and approved.

#### **Results**

The undertaken adaptation can be conditionally classified into 3 categories: linguistic, stylistic, and cultural. Out of 90 questions, 95% of questions were linguistically or stylistically adapted. In many cases, two translation variants were reviewed and a new variant was suggested. The most challenging was the cultural adaptation of questions about education, healthcare system, and health insurance.

#### **Conclusion**

Compared to native-born people of Germany and the US, FSU immigrants come from different cultural, educational as well as healthcare system backgrounds, which may affect their ability to find, understand, assess and use health information in the host country. A substantial adaptation of the HLS<sub>19</sub> questionnaire led to the development of a culturally and linguistically appropriate tool relevant to the context of their host countries. We also considered peculiarities of the FSU immigrant populations compared to FSU residents. The questionnaire adaptation study can serve as an example of collaborative international and multi-cultural work.

*Keywords: health literacy, questionnaire, adaptation, immigrants, Russian-speaking*



**Oral Presentation: Session Oral 15 Health literacy, public health promotion and vaccination  
Oct. 5th (Tue.) 13:30-15:00**

Topic: Health literacy and public health promotion  
Abstract No: 13286

**Reading a brochure containing infant feeding recommendations, a way to improve the level and quality of knowledge in French parents?**

Sofia De Rosso<sup>\*1</sup> ; Claire Chabanet<sup>1</sup> ; Pauline Ducrot<sup>2</sup> ; Sophie Nicklaus<sup>1</sup> ; Camille Schwartz<sup>1</sup>

<sup>1</sup>Centre for Taste and Feeding Behavior/ INRAE/ France, <sup>2</sup>Nutrition and physical activity unit/ Santé publique France/ France

**Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Unhealthy eating behaviors are risk factors for non-communicable diseases. Eating behaviors are formed during childhood; parents play a crucial role in influencing their children future food choices and preferences. Parental feeding practices in line with recommendations have a higher chance to turn into healthier related outcomes. However, low parental health literacy might limit the understanding of recommendations and, therefore, the ability to act as recommended. Providing simple and clear messages might be a way to remedy this and strengthen existing knowledge on infant and young child feeding (IYCF). Nevertheless, it is important to evaluate whether these messages are correctly understood by all parents. Knowledge and understanding are powerful tools to promote health and guide societies towards positive health behaviors, thus ensuring, among other skills, improved IYCF practices.

This study aims to evaluate the effect of reading updated IYCF recommendations gathered in a brochure on knowledge correctness and certainty in French parents. A representative sample of 501 parents (quotas sampling) completed an online questionnaire (T0) comprising 30 sentences regarding IYCF. For each, parents indicated whether it was true/false and how certain they were of their answer (4-point scale). After receiving and reading the brochure, the same parents completed the same questionnaire three weeks later (T1). Correctness (number of correct answers) and certainty (number of mastered answers: correct answers given with the maximal degree of certainty) were compared (T1 vs.T0).

A total of 452 parents answered T0 and T1 and were considered for analysis. Between T0 and T1, the number of correct answers (median 22 to 25,  $t(451)=17.2$ ,  $p<0.001$ ) and of mastered answers (median 11 to 17,  $t(451)=18.8$ ,  $p<0.001$ ) increased. The median of the differences was larger for mastered answers: the brochure had a stronger effect on increasing the certainty of parental knowledge than its correctness.

A brochure containing IYCF recommendations has the potential to augment not only the level but also the quality of parental knowledge (even when knowledge level is already high, as observed here). Future work will evaluate whether this increase in knowledge transfers into increases in self-efficacy and IYCF literacy, as further steps into optimal parental feeding practices.

*Keywords: infant feeding recommendations; parents; nutrition knowledge; education; public health*

Topic: Health literacy and public health promotion  
Abstract No: 13184

## Graffiti and health literacy in the COVID-19 crisis in Greece and Europe

Barbara K. Kondilis<sup>\*1 2</sup> ; Kalliopi Koundouri<sup>\*1 3</sup> ; Anastasios Kountouris<sup>1 3</sup> ; Vasiliki Ivrou<sup>4</sup> ; Eleni Plemmenou<sup>1</sup> ; Alexandra Kourakou<sup>5</sup>

<sup>1</sup>Arts and Sciences/ Hellenic American University/ Greece (Ελλάδα), <sup>2</sup>Health Psychology/ ICPS Humanistic Studies/ Greece (Ελλάδα), <sup>3</sup>Education/ University of the Aegean/ Greece (Ελλάδα), <sup>4</sup>Media and Communication / National and Kapodistrian University/ Greece (Ελλάδα), <sup>5</sup>Psychology/ National and Kapodistrian University/ Greece (Ελλάδα)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

Graffiti, in all its forms, is a global phenomenon transcending society as a reference point, particularly in times of crisis, positively or negatively. Viewed as a globalized “urban art” form (Brazenall, 2015; Miller, 2015; Zavakos, n.d.), indicative of local and global linguistic landscapes (Ghouma, 2016), or acts of vandalism with legal ramifications, while ‘tagging graffiti’ as expressing group identities (Noels, Yashihma, Yang, 2012). Several studies emphasize sociological phenomena of vandalism and related crime, including the “Broken Windows Theory,” still others, graffiti as value to communities. These phenomena, emphasizing personal and civic engagement, lend capacity for policy reform encapsulating health literacy, since graffiti and street art relate to local and global culture. Health literacy in Greece and the EU has been a topic of research for over ten years, while public space graffiti and its potential to increase health literacy is a relatively unexplored global phenomenon.

#### **Methods**

Mixed methods study: (a) a thematic analysis and purposive sampling of images collected locally (Athens) and internationally from related posts and articles on graffiti art used for coronavirus or COVID-19 (time period March-May 2020); (b) extracts from interviews with local graffiti writers/taggers (age range 16 – 35) for insight into related COVID-19 graffiti activities. Qualitative data from inter-methodological analyses of selected graffiti images, and the aforementioned interviews are utilized.

#### **Results**

Select images focused on the ‘Stay Home’ social marketing campaign, healthcare worker safety, domestic issues, individual designs or political statements. Five in-depth tagger interviews offered insight into their personality traits, community hierarchy, referencing specific graffiti works including the ‘stay home’ campaign for COVID-19.

#### **Discussion & Conclusion**

The authors suggest that the COVID-19 crisis, peaking in Winter-Spring of 2020, inspired several graffiti artists to “lend a public health hand” in supporting front-line workers by creating public space images and/or combining action words or phrases with popular cultural images. Several themes enhanced the ‘stay home’ movement by focusing on public safety, including focus on domestic violence, while others addressed related political issues. These graffiti works contribute to health literacy, aesthetically and semiotically, inspiring actions and expressing individual and community perceptions about the crises at hand.

*Keywords: COVID-19; graffiti; crises; health literacy; public spaces*



Topic: Health literacy and public health promotion  
Abstract No: 13265

## Evaluation of the ‘thought model of spirituality’ to define spiritual dimension in health literacy for public health promotion.

Mahesh Bhatt<sup>1</sup>

<sup>1</sup>Public Health/ MMBSHS Trust/ India

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### Introduction –

WHO adopted the ‘spiritual dimension’ of health in 1984 via resolution WHA37. The spiritual thought process evolved to encourage positive thoughts. It prevents, corrects, and modulates negative thoughts in religions, cultures, science, and philosophy. It is scientifically proven that human thoughts play a significant role in health, wellbeing, and happiness. The Spiritual Dimension deals with the thought processes which directly or indirectly affect physical, mental, and social health.

#### Background –

Multiple, complex, and ambiguous definitions of spirituality and its association with religions made it unfit for India’s healthcare and Public Health Literacy programs. Market-driven actors and their solutions fill this gap and lead to exploitation and promotion of unscientific practices in the name of ‘Spiritual Wellbeing.’ A large market, great demand, and cocktail with religions make spirituality a potential tool for vested political, religious, and business interests that may prove disastrous for the physical, mental, and social health, specifically in stress situations like COVID19. So, we incorporate it into our community health education strategy.

#### Objectives and Methodology –

We apply the ‘Thought Model of Spirituality’ in our community health education drive in District Rudraprayag, Uttarakhand, India, during COVID19 from August-2020 to January-2021 and evaluated its application in Health Literacy Concepts for public health promotion.

#### Findings and Discussion –

The ‘thought model of spirituality’ is based on the evolution of human thoughts from primitive thoughts to complex spiritual ideas as ‘all the positive thoughts of humanity and human values with a connectedness to our ‘Self’ and surroundings.’ Among 23 healthcare workers, all said that it removes religious complexities and ambiguities and provides a simple definition of the spiritual dimension for easy applicability in healthcare settings. 87% (20 out of 23) found it helpful to analyze, 78% (18 out of 23) to interpret, and 100% said it helped in understanding the religious and cultural belief systems and their health benefits better.

#### Conclusion –

The ‘thought model of spirituality’ can prevent exploitation and unscientific practices among communities in the name of ‘spiritual wellbeing’ and help in the health literacy program dealing with its biases, complexities, and ambiguities better for health promotion.

*Keywords: spiritual dimension of health, public health promotion, health literacy, spiritual dimension, health education,*

Topic: Health literacy and vaccination  
Abstract No: 13441

## Do we understand why get vaccinated? Measuring vaccination health literacy in Hungary

Gabriella Mátyás<sup>1 2</sup> ; Éva Bíró<sup>2</sup>

<sup>1</sup>Doctoral School of Health Sciences/ University of Debrecen/ Hungary (Magyarország), <sup>2</sup>Department of Public Health and Epidemiology/ Faculty of Medicine, University of Debrecen/ Hungary (Magyarország)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Introduction:** Vaccines can protect against disease, disability, and death from vaccine-preventable diseases. There is ample evidence of the effectiveness of vaccinations and the success of immunization, yet a section of the population doubts the need for and usefulness of vaccinations. Vaccine hesitancy and vaccine uptake are both influenced by health literacy and specifically vaccination literacy.

**Objective:** The aim of our study was to measure vaccination health literacy among the general adult population in Hungary and discover its determinants.

**Methods:** We carried out a nationwide cross-sectional study in the general population as a part of the European Health Literacy Population Survey 2019-21, a project of the Action Network on Measuring Population and Organizational Health Literacy. Besides Hungary, six other member states screened the level of vaccination health literacy. Computer-assisted telephone interviews were used to collect data on a representative sample (N = 1206) in 2020. Four questions were used as an instrument out of the European Health Literacy Survey Questionnaire-47 to measure vaccination health literacy. The instrument's reliability was evaluated using Cronbach- $\alpha$ . Associations between different health literacy scores and vaccination health literacy were also investigated.

**Results:** The instrument's internal consistency measured by Cronbach- $\alpha$  was adequate (0.70). The overall Hungarian level of vaccination health literacy is the second highest in Europe. Seventeen per cent of the respondents found that making decisions and getting informed about vaccinations is 'difficult' or 'very difficult' versus 83% of them found that it is 'easy' or 'very easy'. There is no significant difference between the two genders regarding vaccination health literacy. Young age (18-25 years) and financial deprivation have a negative impact on the level of vaccination health literacy. There is a modest correlation between vaccination health literacy, digital health literacy score ( $r = 0.45$ ) and general health literacy score ( $r = 0.43$ ).

**Conclusion:** To enhance general and vaccination health literacy in Hungary, we need to focus on young adults and financially deprived groups. They need tailor-made health communication to get deeper knowledge on the field of vaccination.

*Keywords: vaccination health literacy; general population; survey; Hungary*



Topic: Health literacy policy and advocacy  
Abstract No: 13381

## Health literacy invisibility in Brazil's health policies

Flavio Tristão<sup>\*1</sup>

<sup>1</sup>Physical Education/ Federal University of Espirito Santo/ Brazil (Brasil)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

When advocating for the development of health literacy in health policies, it is necessary to consider the engagement of stakeholders who represents the most varied nations that participate in Health Conferences, more specifically the International Health Promotion Conferences.

After the highlight given at the 9th International Health Promotion Conference held in Shanghai in 2016, health literacy was then considered as one of the three pillars for health promotion development. Thus, it was understood that health literacy needs to expand from the personal level to the political level.

In this sense, waiting for some action to increase the inclusion of health literacy in the scenario of Brazilian health policies, it is necessary to investigate how this issue has been dealt with, mainly in the most recent planning and management instruments that guides the actions to be developed in the health system, such as the National Health Plan and the National Health Promotion Policy.

Therefore, the objective of this study was to analyze how relevant health literacy comes from the composition of the guiding instruments of actions in the scope of the brazilian public health.

The applied methodology was the documentary analysis, where the National Health Plan (2020 - 2023) and the most recent edition of the National Health Promotion Policy (2017) were consulted.

The result shows that health literacy is not even considered in both National Health Plan and National Health Promotion Policy. Even when referenced by similar expressions such as "health education", it does not come close to the essence of the concept that health literacy features.

Thus, the lack of health literacy in such instruments weakens its visibility and the importance of being known by managers who are directly related to the planning of actions.

Besides, it is worth noting the fact that, specifically at the 9th conference, there is a commitment to make bold political choices for health, including the prioritization of the development of health literacy in the policies of the participating countries.

Finally, it may be considered urgent that health literacy must be strengthened in an by health policies as a powerful tool for health promotion.

*Keywords: Health Promotion; Health Policies; National Health Plan; Commitment; Advocacy*

## Oral Presentation: Session Oral 16 Cancer and nutrition health literacy Oct. 5th (Tue.) 13:30-15:00

Topic: Cancer health literacy  
Abstract No: 13384

### **A step forward for cancer literacy measurement in Portugal: adaptation and validation of a tool to assess cancer patients**

Ana Barros<sup>1</sup> ; Helena Santos<sup>2</sup> ; Filipe Silva<sup>1</sup>

<sup>1</sup>Communication Unit/ I3S - Institute for Research and Innovation in Health University of Porto/ Portugal, <sup>2</sup>Social Sciences/ Faculty of Economics University of Porto/ Portugal

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### Introduction

Health literacy undertakes a crucial role in patients' abilities to cope with the disease and interact with healthcare systems. This becomes even more evident in high-burden diseases such as cancer where literacy plays a major role for patients who need to be empowered to make decisions based upon the available information with the necessary skills, confidence, and autonomy. So, measurement of cancer literacy is crucial to outline and implement adequate programs and strategies that positively impact patients' cancer literacy.

In Portugal health literacy measurement is recent and there is an absence of validated tools that allow measuring literacy in specific disease contexts such as cancer. Considering the characteristics of the internationally available tools, we selected CHLT-30 to evaluate cancer literacy in Portuguese cancer patients, and this work describes its translation, cultural adaptation and validation for the Portuguese context.

##### Methods

A multidisciplinary team of health experts did the translation and cultural adaptation of the CHLT-30. A test-retest to validate the Portuguese version (CHLT-30 PT) was conducted in a population of cancer patients (n=51). Descriptive statistics were used to characterize the sample. Reliability (test-retest and internal consistency) and construct validity of CHLT-30 PT were assessed.

##### Results

The results obtained show a good and acceptable internal consistency of the tool, (Cronbach's alpha=0.869 in the *test* and 0.771 in the *retest*). Patients' raw score mean (number of correct answers) in both *test* (23.57) and *retest* (25.95) and the distribution of scores categories are not statistically different, proving the validity of the questionnaire.

A suggestive association between higher education level and better scores was found, similar to the original report of CHLT-30-DKspa implementation. No statistically significant associations were found between score categories and gender, age, or type of health system.

##### Conclusion

This is the first adapted and validated tool to measure cancer literacy in the Portuguese population. The use of this tool in clinical practice will allow outlining patients' cancer literacy along the cancer care continuum, enabling the identification and implementation of adequate socio-educational strategies with highly positive impacts on health outcomes.

*Keywords: Cancer literacy; Measurement; Cancer Health Literacy Test*

Topic: Cancer health literacy  
Abstract No: 13431

## **Cancer literacy, key element for the EU's Cancer Plan: "Perceptions and attitudes regarding cancer prevention, diagnosis and treatment" in Romania**

Marius Geanta<sup>1</sup> ; Cosmina Cioroboiu<sup>1</sup> ; Adriana Boata<sup>1</sup> ; Bianca Cucos<sup>1</sup> ; Ruxandra Schitea<sup>1</sup>  
<sup>1</sup>Public policy/ Centre for Innovation in Medicine/ Romania (România)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Introduction**

Romania's cancer burden is high, with 83,461 newly diagnosed cases and 50,902 total deaths in 2018. Romania is amongst the top 10 European countries in terms of cancer mortality rates. The lack of information and adequate screening services are some of the main causes for late detection of cases.

#### **Description of Objectives**

We measured the level of citizens' awareness and their perception on prevention, diagnosis and treatment of cancer, in 2016, 2018 and 2020 (pre-pandemic) through telephonic interviews (CATI): 1010 participants in each study, sociologically relevant at national level.

#### **Results**

In 2020, 78% of participants believed that cancer can be prevented, compared to 82% (in 2016, 2018). This belief was rather present in the segment that had no experience with the disease. Over 80% of respondents (85.9% - 2016, 87.1% - 2018, 82.1% - 2020) believed that the disease can be detected in early stages.

Fewer participants considered that cancer could be cured in 2020, as compared to 2016 (71.5% and 74% respectively). Additionally, we identified an increase in the rate of people who were convinced that cancer always results in death (44.9% - 2016, 47.9% - 2020).

Further data assessed levels of knowledge on immune-oncology and personalised medicine, with varying trends being reported across the three studies.

In 2018, 48% of women stated that they had not been tested for HPV within the previous 3 years, 61% never heard about HPV vaccination. 54% documented the subject, but only 2% had been informed and vaccinated.

#### **Discussions**

Inconsistency exists between the knowledge declared and the understanding of the topic (HPV example). Access to healthcare and new therapies has improved in Romania from 2016 to 2020; however people's perceptions and fatalistic attitude worsened, despite multiple information campaigns. There was also a decrease in the awareness about immune-oncology and personalised medicine. We noticed the presence of infodemy; a multitude of incomplete, scientifically invalid information posted online, particularly on social networks and forums.



Cancer literacy should lay the foundation for BECA, aiming to empower people with the knowledge required for making healthier choices (prevention) and to facilitate their access to quality healthcare services.

*Keywords: Cancer literacy; Romania; Prevention; Treatment; Diagnosis*

Topic: Cancer health literacy  
Abstract No: 13084

## Community-Based Approaches to Cancer Prevention in Rural Thailand Based on Experiences of Accredited Health Professionals: Implication for health literate community

Kesinee Saranrittichai<sup>1</sup> ; Wichai Ussavapark <sup>2</sup> ; Apisit Thamrongwarangkoon<sup>3</sup> ; Tiptiya Heangorn<sup>2</sup> ; Sureerat Daoruang<sup>2</sup> ; Ampornpan Teeranut<sup>4</sup>

<sup>1</sup>Health education and health promotion/ Faculty of Public Health, Khon Kaen University, Research and Training Center for Enhancing Quality of Life of Working Age People/ Thailand (๒๕๕), <sup>2</sup>Family medicine/ Nampong Hospital/ Thailand (๒๕๕),

<sup>3</sup>Family medicine/ Ubolratana Hospital/ Thailand (๒๕๕), <sup>4</sup>Adult Nursing/ Faculty of Nursing, Khon Kaen University/ Thailand (๒๕๕)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

This qualitative research aimed to describe important components of community based approaches of cancer prevention from working experiences of accredited health professionals in Thai rural communities.

**Methods:** Data were collected from 23 communities with 23 accredited health professionals as key participants using in-depth interview and focus group discussions (FGDs) in each community. Other informants were community leaders, community health volunteers and community people. Content analysis was applied for data analysis.

**Results:** Community-based approaches for cancer prevention from the experiences of accredited health professionals were composed of 2 themes: approaches for community-based cancer prevention and methods for cancer-based prevention in the community. The approaches for community-based cancer prevention was composed of 4 components: 1) primary prevention focusing on health education; 2) secondary prevention include: life style modification, vaccination, advocacy of cancer screening, early detection, and prompt refer; 3) tertiary prevention focusing on primary care, and 4) research collaboration focusing on networking. Methods for cancer-based prevention in the community were different based on types of cancer. The 3 factors determined to be associated with community based approaches for cancer prevention were: 1) primary care policy; 2) hometown workplace; and 3) health practice skill.

**Conclusion:** Community-based approaches for cancer prevention should concentrate on building a literate community involvement to empower both health care providers and residents. From our evidence, dedicated community associates health professionals have a major role to play.

*Keywords: Cancer prevention, community-based approach, health literate community, accredited health professional*



Topic: Health literacy interventions and behavior change  
Abstract No: 13297

## ADULT CANCER SURVIVOR'S HEALTH LITERACY SKILLS AND THEIR MANAGEMENT OF CHRONIC SYMPTOMS SECONDARY TO ONCOLOGIC TREATMENTS IN AUSTRALIA

Manuela Malaguti<sup>\*1</sup>

<sup>1</sup>Medicine and Health/ University of New England/ Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Aims and objectives.** This study aimed to investigate the health literacy level of adult Australian cancer survivors and their skills in managing chronic issues secondary to oncologic treatments.

**Background.** The rising number of Australian cancer survivors has been strongly associated with the increased need to self-manage long-term health issues secondary to cancer treatments. Good health management is impacted by a limited or low health literacy level, which is a significant predictor of poor health outcomes and well-being.

**Design.** A cross-sectional study.

**Methods.** The internationally validated Health Literacy Questionnaire was emailed to the study participants from two health care centers located in South-East Queensland. Qualtrics retrieved data was subsequently entered into the SPSS for statistical analysis of variance to determine the differences among group means and their associated presentations.

**Conclusions.** This is the first large-scale Australian study investigating the level of health literacy of cancer survivors in the management of health issues secondary to oncologic treatments. Further research is required to validate these findings in a broader setting.

**Relevance to clinical practice.** Cancer survivors are often faced with complex long-term health care needs that require decision-making in a highly stressful environment. The healthcare team's role is to ensure that cancer survivors have the information, tools, and resources needed to make informed decisions. Oncology nurses have a unique position in improving cancer patients' health literacy levels at the conclusion of cancer treatments in hospitals.

*Keywords: cancer survivorship; self-management; health equity; oncologic treatments; chronic issues.*



Topic: Nutrition health literacy  
Abstract No: 13268

## Promoting health literacy and food literacy in older adults through self-reliant groups – results of a German intervention in the community

Felix Zastrow<sup>\*1</sup> ; Carola Pentner<sup>1</sup> ; Holger Hassel<sup>1</sup>

<sup>1</sup>Institute for Applied Health Sciences/ Coburg University of Applied Sciences and Arts/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background**

Health literacy (HL) entails people's knowledge, motivation, and competences to access, understand, appraise, and apply health information necessary to make appropriate health decisions during the life course. Food literacy (FL), a subset of HL, refers to people's knowledge and competences to meet the complex demands of a healthy and sustainable diet.

HL was demonstrated to be limited among adults aged 65 and over in Germany (Schaeffer et al., 2016) and a recent study on HL in older adults revealed that their HL levels have actually decreased in recent years (Hurrelmann et al., 2020). Moreover, 4 out of 10 adults in Germany between the ages of 60 and 69 have limited FL (Kolpatzik & Zaunbrecher, 2020).

Despite this, there is a conspicuous lack of evidence-based HL and FL interventions. The project "Enjoy eating and stay healthy together (GUSTO)" aims to contribute to active aging by promoting HL and FL of people aged 65 and over.

#### **Description of Intervention**

A participatory approach was used to develop and implement a 52-week program including 24 meetings of self-reliant, peer-moderated groups of older adults in Bavarian social service institutions. The intervention consisted of a total of 136 older adults (112 participants, 24 peer moderators) in 11 groups.

The intervention's effect on HL and FL was measured using a German version of the HLS-EU-16 questionnaire and a German version of the Self-Perceived FL Scale (Poelman et al., 2018). Two questionnaire surveys were conducted in a pre-post comparison.

#### **Results**

119 older adults (mean age: 71.2 ± 6.7 years, male: 29.4%) completed the questionnaire in the first measurement. It is assumed that the percentage of older adults with insufficient or problematic HL will have dropped from 36.1% at the beginning of the intervention to 29.4% at the end and the percentage of older adults with limited FL will have dropped from 18.4% to 15.1%.

#### **Conclusions**

Self-reliant, peer-moderated groups are effective in engaging older adults to improve their HL and FL. In addition, the participants get involved more intensively in community life. This intervention is a first step towards overcoming the lack of evidence-based HL and FL promotion.

*Keywords: health literacy; food literacy; intervention; older adults; community*



Topic: Nutrition health literacy  
Abstract No: 13070

## Food literacy train-the-trainers program: concept and implementation

Keren Greenberg<sup>1</sup>; Mayada Karjawayly<sup>1</sup>; Maha Nubani<sup>1</sup>; Elisheva Leiter<sup>1</sup>; Milka Donchin<sup>1,2</sup>; Donna Zwas<sup>1</sup>

<sup>1</sup>The Linda Joy Pollin Cardiovascular Wellness Center for Women/ Hadassah University Medical Center/ Israel (ישראל), <sup>2</sup>Braun School of Public Health/ The Hebrew University/ Israel (ישראל)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Eating habits are affected by different abilities, skills and social determinants. Food Literacy (FL) encompasses a range of competencies, including skills, capacity, and self-efficacy, so as to enable optimal nutrition. FL, therefore, is the capability to make healthy food choices in different contexts, settings and situations. Gamification enables the transmission of educational material in an enjoyable manner by lay leaders. This program seeks to improve nutrition behaviors in disadvantaged communities via a train-the-trainers program, providing lay leaders with the tools necessary to disseminate FL skills in their community, using game-based tools. The program suggests a FL model including four dimensions: preparation skills, organization, psycho-social factors, and nutrition knowledge, and includes factors such as cultural contexts, recipe modification and budgeting skills.

**Objectives:** To improve nutrition behaviors and raise the level of FL in women from disadvantaged communities via a train-the-trainers program.

**Methods:** Community lay leaders underwent training in a program that enabled them to effectively disseminate FL skills through engaging visual and game-based tools. Baseline and follow up data included participants' eating habits and a FL scale, based on an existing scale that has been modified for this program.

**Results:** The program was piloted in a group of lay leaders in Jerusalem. Post program, participants' FL level increased significantly ( $p < 0.05$ ). Additionally, lay leaders reported significantly higher levels of confidence in their ability to find information about nutrition ( $p < 0.05$ ), and to implement the FL program in their community ( $p < 0.001$ ). The leaders have started facilitating FL groups, each in their own community.

**Conclusion:** This pilot program using gamification was able to show improvement in multiple dimensions of food literacy. Preliminary data suggests that a FL train-the-trainers program can increase FL levels, with the potential of improving eating habits within the community. Nutrition interventions should address multiple components of food literacy rather than solely information about what should and should not be eaten.

*Keywords: Food Literacy, Training program, Community Intervention*



## Workshop 5, Oct. 5th (Tue.) 13:30-15:00

Topic: Health literacy and cultural appropriateness  
Abstract No: 13140

### New Plain Language Fundamentals for Health Literacy

Romina Marazzato Sparano<sup>\*1 2</sup>

<sup>1</sup>Health Literacy/ Plain Language Academy/ United States, <sup>2</sup>Psychology/ Universidad Nacional de La Plata/ Argentina

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

As we plan for Healthy People 2030 and other initiatives, we are expanding our understanding of health literacy. Health literacy has become a multidimensional construct, where interlocutors, language, and context play crucial roles. The goal remains to help individuals seek, obtain, understand, assess, and apply health information in daily life and health care contexts, but through the purposeful interaction between:

- individual knowledge, skills, culture, and beliefs, including world and health knowledge, general intelligence and literacy, and social and communication skills (mediated by language and education);
- the knowledge, skills, culture, and beliefs of health care and health information providers;
- the demands and complexities of the healthcare system; and
- the use of plain language in communication, whether oral or written.

Operationalizing this new construct does require a variety of measures. Among such measures, defining, assessing, and testing for plain language in communication is key.

And plain language itself has been redefined, as the quest to share information and knowledge looks beyond taming technical terms or legal verbosity. Plain language is about clear communication across the board, from accessible communication for people with disabilities to clear technical communication among experts about complex subjects.

Clients and students often ask me how plain language can apply to both lay and technical texts. The answer includes an exploration of text and the principles of plain language. Text emerges from a careful interplay between lexical, syntactic, sequencing, and structural choices—where design also becomes an important strategy. Plain language principles inform the writers choices to suit the audience at hand. These principles include relevance, textuality, adequacy, accessibility, and actionability.

During the workshop, we will explore each of the five principles of plain language through real world examples. We will look into register, style, readability, versioning, paraphrasing, signposting, and information structure to provide clear content delivery options across the spectrum of communication. We will analyze excerpts and identify principles, strategies, and techniques, and we will work on writing and editing activities. Participants will leave with a toolbox full of choices to implement in their own writing practice.

*Keywords: plain language; accessibility, adequacy; textuality; actionability*



## Symposium 8, Oct. 5th (Tue.) 13:30-15:00

Topic: Health literacy and public health promotion  
Abstract No: 13471

### **Next Gen Hawai'i: A Multi-Language Youth-Focused Social Media Outreach Collaboration to Build Health Literacy in COVID-19**

Tetine Sentell<sup>\*1</sup> ; Heather Garrido<sup>\*1</sup> ; Momi Tolentino<sup>\*1</sup> ; Nikky Zena Bali<sup>\*1</sup> ; Sydney Miller<sup>\*1</sup> ; Jaelyn Takiguchi<sup>1</sup> ; Elarie Ranido<sup>\*1</sup>

<sup>1</sup>Office of Public Health Studies/ University of Hawai'i at Manoa/ United States <sup>1</sup>Native Hawaiian & Pacific Islander COVID-19 Response, Recovery, and Resilience Team/ Next Gen Hawai'i/ United States

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The Next Gen Hawai'i project began in Fall 2020 to strategically amplify voices of Hawai'i youth in their Native languages to improve community health and health literacy, especially in Native Hawaiian, Pacific Islander, and other ethnic populations disproportionately suffering from COVID-19 impacts. The collaborative effort arose from Hawai'i's Native Hawaiian & Pacific Islander COVID-19 Response, Recovery, and Resilience Team, composed of diverse public and private organizations, and a core group of youth organizers. Five youth-focused Next Gen Hawai'i social media platforms were developed to support public health messaging. Next Gen Hawai'i Public Health Ambassadors (from high school to young adults) were engaged to create culturally and linguistically appropriate messaging. Topics (in over 100 posts) have included: vaccines, masks, social connection, and in-language resources. The effort increased access to reliable public health information in Chuukese, Chamorro, Marshallese, Samoan, Hawaiian, Ilocano, Tagalog, and many other Pacific-basin languages. Reach has included more than 75,000+ views from social media, as well as media attention, and a successful webinar. This strength-based approach promotes youth leaderships, especially from Native and indigenous youth, as important social influences for public health, community engagement, and social change. The project also leverages cultural values and strengths such as intergenerational households, and strong family and community relationships. The effort is built on health literacy best practices, cultural values, and youth engagement. This symposium will share the experiences, perspectives, and lessons of the Next Gen Hawai'i Public Health

*Keywords: Native Hawaiian, Pacific Islander, Social Media, Youth, Cultural Relevance*

## Symposium 9, Oct. 5th (Tue.) 13:30-15:00

Topic: Health literacy and COVID-19  
Abstract No: 13373

### When good information goes bad: negotiating information overload in the WHO's first global infodemic management training

Tina Purnat<sup>3</sup> ; Elisabeth Wilhelm<sup>4</sup> ; Theresa Senft<sup>1</sup> ; Lynette Phuong<sup>2</sup> ; ; Tim Nguyen<sup>2</sup>

<sup>3</sup>Digital Governance Section, Digital Transformation Unit/ European Centre for Disease Control (ECDC) /Principal Expert in eHealth and Digital Innovations for Public Health/ Sweden (Sverige), <sup>4</sup> Vaccine Task Force, Demand for Immunization Team, Global Immunization Division/ Center for Disease Control (CDC)/Co-Lead, Vaccine Confidence Team/ United States <sup>1</sup>Media, Music, Communication & Cultural Studies/ Macquarie University/Senior Lecturer in Social Media/ Australia <sup>2</sup>Infodemic Management/ World Health Organization/Technical Officer/ Switzerland (Schweiz) <sup>2</sup>Infodemic Management / World Health Organization (WHO) /Head of Unit, High Impact Events Preparedness/ Switzerland (Schweiz)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

What do you do when learning and teaching about information overload winds up overwhelming you? In this panel, speakers reflect on their experiences planning for, teaching in, and navigating through information overload during the World Health Organisation's first ever global training for Infodemic Managers.

The state of information overload has been described as one in which an individual cannot process incoming information and communication. Overload is a critical feature of what has been called the *infodemic*: in our training, we were charged with helping communities exposed to both "low quality" information (e.g. disinformation, misinformation, mal-information, poorly transmitted information) as well as an overload of "high quality" information(e.g., accurate, truthful, vetted, etc.) We hope to engage the audience in conversations about monitoring, evaluating, and responding to information overload in their own specific circumstances.

This panel contextualises our experience from three separate positions. Tina Purnatt and Elisabeth Wilhelm will address overload issues while acting as the original designers of this training for the WHO. Terri Senft will discuss overload from the perspective of an outside instructor on the training. Lynette Phuong will speak from the perspective of a student involved in the training. Tim Nguyen of the WHO will moderate the panel.

Thematically, this panel invites the audience to consider overload in terms of environmental, technological, and individual challenges. Environmentally, this might mean the demand for structured learning experiences, coupled with desires for spontaneous group interaction online. Technologically, this might involve the desire to quickly master 'flashy' tools like dashboards. Individually, overload might include cognitive responses (e.g. decision-making fatigue); emotional reactions (ranging from frustration to anxiety); and suboptimal behaviour patterns (avoidance, denialism,etc. .)

Participants attending this panel will learn to frame conversations about overload using two conceptual tools. The *S-O-R Framework* casts human behaviour in terms of environmental *stimuli* that affects individuals' internal states (called an *organism*), which in turn leads to behavioral *responses*. To talk about why we leave or stay in conditions of overload, we adopt *prospect theory*, which holds that each individual negotiates action choices according to their own personal sense of loss and gain.

**Keywords:** *infodemic, information overload, misinformation, training*



## Symposium 10, Oct. 5th (Tue.) 13:30-15:00

Topic: Health literacy in schools and educational settings  
Abstract No: 13347

### Health Literacy in Schools: Empirical and Practical Insights

Orkan Okan<sup>\*1</sup> ; Torsten Michael Bollweg<sup>\*1</sup> ; Sandra Kirchhoff<sup>\*1</sup> ; Tessa Schülenkorf<sup>\*1</sup> ; Alexandra Maria Fretian<sup>\*1</sup> ; Kevin Dadaczynski<sup>\*1</sup> ; Ullrich Bauer<sup>1</sup>

<sup>1</sup>Interdisciplinary Centre for Health Literacy Research/ Bielefeld University/ Germany (Deutschland) <sup>1</sup>Public Health Centre Fulda/ Fulda University of Applied Sciences/ Germany (Deutschland)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### **Objectives**

Enhancing health literacy of children and adolescents is a bedrock for sustainable development. This is mainly because childhood and adolescence represent key stages for addressing health, social and educational development and influencing health behavior and healthy lifestyles over the life-course. Schools are critical settings to facilitate health literacy. In addition, the COVID-19 pandemic has repeatedly underlined the importance of health literacy for empowering children and adolescents to navigate the 'infodemic', distinguish accurate from false information, shape their prevention behavior, and protect their mental health. The aim of this interdisciplinary workshop is to present results from projects (i) on measuring health literacy in schools, (ii) developing school interventions and (iii) developing the health literate school organization.

##### **Activities**

This workshop will include five presentations from five different projects: (i) a representative survey on children's general and COVID-19 related health literacy in one federal state of Germany, (ii) an intervention toolbox for health literacy promotion in schools, (iii) an intervention for improving adolescent's mental health literacy in schools, (iv) a whole school approach and organizational health literacy in schools, and (v) measuring digital health literacy in schools. In addition, an introductory presentation will give an overview of these projects and the state of the art of health literacy in schools. Each presentation will last ten minutes with additional five minutes for Q&A followed by an open discussion with the audience.

##### **Conclusion**

Health literacy contributes to promoting and maintaining child and adolescent health. Health literacy needs to be strengthened through investments in education and school health programs. Topics such as COVID-19, vaccination and false information on social media should be addressed in the context of health literacy teaching and learning. The whole school setting should be engaged in fostering health literacy development in schoolchildren as well as educational professionals (such as teachers, principals, educational staff, and school health professionals). Addressing health literacy, digital health literacy and mental health literacy in schools will not only help sustain better physical and mental health outcomes but also reduce health inequalities and sustain health equity.

*Keywords: Schools, Survey, Intervention, Policy, Organizational Health Literacy, Mental Health Literacy*



## Oral Presentation: Session Oral 17 Health literacy - NCDs & older adults Oct. 5th (Tue.) 16:30-18:00

Topic: Health literacy and NCDs  
Abstract No: 13257

### **A scoping review: Global health literacy interventions for pregnant women and mothers with young children**

Satish Melwani<sup>\*1</sup> ; Rosie Nash<sup>1</sup> ; Verity Cleland<sup>1</sup> ; Kira Patterson<sup>2</sup>

<sup>1</sup>School of Medicine/ University of Tasmania/ Australia, <sup>2</sup>School of Education/ University of Tasmania/ Australia

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Introduction:** The World Health Organization is focused on enhancing health literacy (HL) throughout the life-course to address the growing burden of Non-communicable diseases (NCDs) globally. The recent research have shown that there is a strong link between maternal health and NCDs. Pregnancy and early motherhood offer a window of opportunity to address NCDs risk earlier in the life-course. Empowering women through HL may help to reduce the intergenerational impact of NCDs.

**Methods:** A scoping review of the international literature was conducted to identify HL interventions that focused on improving NCD related health outcomes or health behaviors of pregnant women and/or mothers with young children. The search was conducted on four electronic databases (MEDLINE complete, CINAHL complete, EMBASE via Ovid and ERIC).

**Results and Discussion:** The search retrieved 5019 articles. After full text screening, 25 studies met the inclusion criteria. No study acknowledged their intervention as a HL intervention, even though they were assessed as targeting various HL dimensions. Only one study measured the HL of mothers. The review suggest that HL interventions are being underutilized and highlights the need to create awareness about the importance of addressing HL of pregnant women and mothers using appropriate tools to understand HL strengths and limitations in achieving healthy lifestyle practices. This can help to co-design locally responsive solutions which may enable women to make informed healthier lifestyle choices for themselves and for their children and thus may accelerate prevention NCDs globally.

*Keywords: Health literacy; Non-Communicable Diseases; Maternal and Child Health; Health equity; Chronic diseases*



Topic: Health literacy and older adults  
Abstract No: 13339

## Health literacy and eHealth literacy carers' profiles: a descriptive correlational study

Areti Efthymiou<sup>1</sup>; Nicos Middleton<sup>1</sup>; Andreas Charalmbous<sup>1 2</sup>; Evridiki Papastavrou<sup>1</sup>

<sup>1</sup>Department of Nursing/ Cyprus University of Technology/ Cyprus (Κύπρος), <sup>2</sup>Department of Nursing/ University of Turku/ Finland (Suomi)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** The way carers of people with dementia search, find, assess and apply health related information could influence the way they care. Health Literacy (HL) and eHealth Literacy (eHL) among carers are gaining attention among researchers, organisations and policy makers. It is already known from previous research among healthcare users that better HL is associated with higher self-efficacy, better adherence to therapeutic plans and better navigation in the healthcare system.

This study aims to describe the levels and profiles of HL and eHL among carers of people with dementia (PWD) in Greece and Cyprus and their associations with coping, self-efficacy and social support.

**Methods:** A sample of 174 primary carers of PwD and 67 secondary carers participated in the study. A face-to-face survey assessing HL, eHL and other caring concepts (caregiving self-efficacy, coping, perceptions towards caring and social support) was administered to primary carers. The study explored both associations between the variables of interest as well as profiles of carers based on cluster analysis

**Results:** Carers with higher HL were more likely to report higher score of eHL and caregiving self-efficacy. Three carers' profiles were identified: 1) carers with High HL, eHL and Self-Efficacy 2) carers with problematic coping and negative caregiving perceptions 3) carers with High HL, eHL and a strong Social Network.

**Conclusions:** Services designed to meet the needs of a carers population with these HL and eHL profiles could assist in the sustainability of the web-based services. Furthermore, tools to identify informal carers with low HL could assist healthcare professionals to provide more tailored services according to carers' needs and enhance their HL skills.

\*presenting author

*Keywords: carers, eHealth Literacy, self-efficacy, caregiving, profiles*

Topic: Health literacy and older adults  
Abstract No: 13262

## **A health literacy toolkit for healthcare professionals in primary care setting working with older people and their families**

Areti Efthymiou<sup>1</sup> ; Argyroula Kalaitzaki<sup>1 2</sup> ; Michalis Rovithis<sup>3</sup>

<sup>1</sup>Quality of Life Lab, Social Work Department/ Hellenic Mediterranean University/ Greece (Ελλάδα), <sup>2</sup>Research Centre 'Institute of Agri-Food and Life Sciences/ Hellenic Mediterranean University / Greece (Ελλάδα), <sup>3</sup>Quality of Life Lab, Nursing Department/ Hellenic Mediterranean University/ Greece (Ελλάδα)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

People with low Health Literacy (HL) levels are unwilling to follow medical instructions, be involved in preventive strategies, and make use of the healthcare services. According to WHO, strengthening the HL skills of the general population is a multifaceted process involving the user, the healthcare professionals, the stakeholders, and the environment. Since the COVID-19 pandemic, enhancing the HL skills of older people became a priority for policy makers and researchers, who pointed out the need to support them to deal with this emergency. It is equally essential to enhance the HL skills of the healthcare professionals. The knowledge and understanding of the importance of HL among healthcare professionals may improve their communication with older people and their families.

This study aims to develop and adapt in Greek a Health Literacy toolkit for healthcare professionals working with older people in order to enable them to identify low HL users and assist healthcare professionals improve their communication skills with them. The study uses a mixed-method design with four phases following the Cultural Adaptation Process Model. In the two first phases a scoping review reporting the knowledge and available HL trainings for the healthcare professionals and two focus groups, with professionals and older people, were conducted to identify their needs. The next steps will be the translation and adaptation in Greek of the toolkit developed by the Agency for Healthcare Research and Quality and the piloting of the tool to healthcare professionals working with older people in the community. The completion of this project will result in a culturally adapted toolkit, which will provide the healthcare professionals with the tools to raise awareness on HL and identify and train older people with low HL. In this way, a better use of healthcare services and better treatment adherence will be succeeded with long term effects in providing high-quality healthcare and improving patient outcomes.

In this presentation (a) the findings of the scoping review in relation to the available HL trainings for the healthcare professionals and (b) the reportedly training needs as came out from the focus groups will be presented.

*Keywords: healthcare professionals, training, older people, toolkit*

Topic: Health literacy and older adults  
Abstract No: 13063

## Validation of pharmaceutical pictograms among older Singaporeans with limited English proficiency

Rahul Malhotra<sup>1 2</sup> ; Sumithra Suppiah<sup>\*1</sup> ; Yi Wen Tan<sup>1</sup> ; Siew Cheng Sarah Tay<sup>3</sup> ; Valerie Shu Ying Tan<sup>4</sup> ; Wern-Ee Tang<sup>5</sup> ; Ngiap Chuan Tan<sup>6</sup> ; Rebecca Ying Hui Wong<sup>6</sup> ; Alexandre Chan<sup>7</sup> ; Gerald Choon-Huat Koh<sup>8</sup> ; Régis Vaillancourt<sup>9</sup>  
<sup>1</sup>Centre for Ageing Research and Education/ Duke-NUS Medical School/ Singapore, <sup>2</sup>Health Services and Systems Research/ Duke-NUS Medical School/ Singapore, <sup>3</sup>Allied Health Department, Pharmacy/ SingHealth Polyclinics/ Singapore, <sup>4</sup>Pharmacy/ National Healthcare Group Pharmacy/ Singapore, <sup>5</sup>Polyclinics/ National Healthcare Group Polyclinics/ Singapore, <sup>6</sup>Department of Research/ SingHealth Polyclinics/ Singapore, <sup>7</sup>Department of Clinical Pharmacy Practice/ University of California/ United States, <sup>8</sup>Saw Swee Hock School of Public Health/ National University of Singapore/ Singapore, <sup>9</sup>Department of Pharmacy/ Children's Hospital of Eastern Ontario/ Canada

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Background:**

In Singapore, prescription medication labels (PMLs) are predominantly dispensed in English, but many older Singaporeans cannot read English. This poses a language barrier to accessing medication information. The inclusion of pharmaceutical pictograms, depicting medication instructions, on PMLs enhances medication literacy and optimizes pharmacotherapy outcomes among older adults. While pharmaceutical pictograms are sometimes used in Singapore, they have not been validated. We aimed to validate 52 International Pharmaceutical Federation (FIP) pharmaceutical pictograms among older Singaporeans.

#### **Methods:**

The study recruited 250 older ( $\geq 60$  years) Singaporeans with limited English proficiency from 5 public polyclinics. Each participant was randomly assigned 11 pictograms and  $\geq 50$  responses for each pictogram were ensured. For each assigned pictogram, first, comprehension was assessed by asking "If you see this picture on a medicine label, what do you think it means?", without informing him/her of its intended meaning. Then, the participant was informed of the pictogram's intended meaning and asked to provide feedback to make the pictogram more representative and culturally-appropriate. All responses were audio-recorded, transcribed and translated before grading by 3 independent coders.

#### **Results:**

Majority of the participants were female (62.4%), of Chinese ethnicity (72%) and had no formal education (48.8%). Based on the ISO-9186 criteria for graphical symbol acceptability, only 20 pictograms (38.5%) achieved  $\geq 66.7\%$  comprehensibility and thus were considered validated. Pictograms relating to frequency, dose and route were better understood compared to those depicting precautions and indication or side effects. On average, participants comprehended 5 pictograms correctly. Poisson regression showed that those younger, of Chinese (versus Malay) ethnicity, with higher education and with polypharmacy comprehended more pictograms.

#### **Discussion:**

Majority of FIP pictograms (61.5%) did not achieve validity ( $\geq 66.7\%$  comprehensibility) among older Singaporeans, highlighting the need for contextual validation of pharmaceutical pictograms prior to their use. Variation in the extent of pictogram comprehension across older adult subgroups indicates the need for comprehensive counselling and education on pharmaceutical pictograms, even after validation. Pictograms that did not achieve comprehensibility are being modified based on participants' feedback. These re-designed Singapore-specific pictograms will be re-tested in future work.

*Keywords: pharmaceutical pictograms; health literacy; prescription medication labels; elderly population; Singapore*



Topic: Digital and technological health literacy  
Abstract No: 13429

## Healthcare in your language: Redefining patient communication with a multilingual voice application

Susan Perry<sup>\*1</sup>

<sup>1</sup>CEO/ SpeechMED/ United States

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Imagine your life depending on taking a bottle of pills properly, but neither you nor your family members understand the instructions because of a language barrier. Unfortunately, every touch point in U.S. healthcare expects patients to *read* their treatment protocols and health information, and read well in English, but one in five Americans go home to a family that speaks another language. We cannot build an inclusive and healthy community if we leave vulnerable patients behind because literacy, culture, and vision impairments render printed health instructions useless and decrease treatment outcomes and adherence.

SpeechMED™ is a language and audio platform that allows patients and their caregivers to read and listen to their health information in the language that they understand and is specifically designed for immigrant households, seniors, the visually impaired, and socioeconomically vulnerable populations. This digital therapeutics tool to improve health literacy (1) Educates patients and caregivers about their medical condition and recovery goals in the language that they speak and (2) Decreases patient hospital re-admissions due to miscommunication and language barrier. With just two clicks, English and Spanish translations are readily available to educate the patient, deliver care instructions, send automatic medication reminders, keep emergency contact information, and record directions from health providers.

In this session, I will share the progress of SpeechMED's clinical trial with Baptist Hospital (Miami) Neuroscience Center on the transition of care from hospital to Spanish-speaking patients and caregivers. Each patient and caregiver are given a tablet device with SpeechMED's language and audio app to assess the patients' needs and goals in a proactive care plan. I will also share initial results on how the combination of voice, language, and digital therapeutics improves re-admissions, medication literacy and management, and overall health compared to patients that are only given written discharge instructions.

*Keywords: language; health technology; speech; app; voice*

## Oral Presentation: Session Oral 18, Oct. 5th (Tue.) 16:30-18:00

Topic: Health literacy across the lifespan  
Abstract No: 13294

### Lay co-researchers in a time of pandemic: exploring household health literacy in an Asian context

Bernadette Bartlam<sup>\*1</sup> ; Aloysius Chow<sup>1</sup> ; Lidia Luna-Puerta<sup>1</sup> ; May O'Lwin<sup>2</sup> ; Wern Ee Tang<sup>3</sup> ; Peter Johannes Schulz<sup>4</sup> ; Helen Elizabeth Smith<sup>1</sup>

<sup>1</sup>Family Medicine & Primary Care/ Lee Kong Chian School of Medicine, Nanyang Technological University Singapore/ Singapore, <sup>2</sup>College of Humanities/ Arts & Social Sciences, Nanyang Technological University Singapore/ Singapore, <sup>3</sup>Clinical Research Unit/ National Healthcare Group Polyclinics/ Singapore, <sup>4</sup>Faculty of Communication Sciences/ University of Lugano/ Italy (Italia)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**The problem:** has 3 dimensions:

- 1) Most health literacy research focuses on the individual, despite growing calls to broaden its conceptualisation to incorporate family, community and society dimensions. Lay members of the community are well placed to contribute to such research ('patient and public involvement': PPI).
- 2) Whilst there is growing evidence of its positive impact, there is criticism that such involvement can fail to meaningfully incorporate PPI within the research process. There is a dearth of examples of PPI in the Asian context.
- 3) The study was interrupted by the COVID-19 pandemic, resulting to changes in our methods.

#### **The approach**

Mixed-methods design to:

1. Confirm utility of the Health Literacy Test for Singapore (HLTS) within households in Singapore
2. Explore feasibility of working with lay collaborators to identify and engage households, collect data, inform interpretation of findings and identify future research questions.

Iterative quantitative (socio-demographic/health data, HLTS scores) and qualitative (PPI contact summary data, de-brief focus groups) data collection. On completion, data from both were triangulated to identify the main themes.

**Findings:** 9 households/20 individual participants; 7 PPI collaborators. All PPI remained involved throughout the study, however channels of communication had to be adapted, as did the original one-off training package. Identifying multi-generational household participants was challenging. PPI collaborators highlighted that whilst inter-generational support is a feature of Singaporean society, external social factors make it difficult engaging younger people. They noted cultural challenges in developing trust and highlighted that access to digital platforms is not universal. Such challenges were exacerbated by COVID-19 restrictions, resulting in early suspension of recruitment. HLTS scores were high (mean: 36/40), but PPI observations indicate a lack of understanding of some items linked to language skills.

**Conclusions:** PPI can increase impact and improve implementation of research findings. In this study PPI collaborators challenged researchers' interpretations of health literacy data, inter-generational relationships, cultural issues of trust, willingness to participate in research and the extent of digital inclusion, particularly in the context of the pandemic restrictions. Such input has implications for future research design, including the reliability of tools such as the HLTS in community research settings.

**Keywords:** Public Involvement; Health Literacy; Inter-generational Relations; Asia; Research Methods

Topic: Health literacy in adolescence  
Abstract No: 13396

## Measuring youth health literacy in Norway during the COVID-19 pandemic

Christopher Le<sup>1 2</sup>; Øystein Guttersrud<sup>3 4</sup>; Kjell Sverre Pettersen<sup>3</sup>; Hanne Sjøberg Finbråten<sup>1 3</sup>

<sup>1</sup>Department of Health and Nursing Sciences/ Inland Norway University of Applied Sciences/ Norway (Norge), <sup>2</sup>Division of Prevention and Public Health / Norwegian Directorate of Health/ Norway (Norge), <sup>3</sup>Department of Nursing and Health Promotion/ Oslo Metropolitan University - OsloMet/ Norway (Norge), <sup>4</sup>The Norwegian Centre for Science Education/ University of Oslo/ Norway (Norge)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Introduction:** During adolescence health-promoting attitudes, beliefs and behaviours are formed. It is also expected that young individuals take an increasing responsibility for own health. Health literacy (HL) in terms of ability to access, understand, appraise, and use reliable health information is crucial to being able to participate actively and take responsibility for one's own health. Hence, investing in youth health literacy (YHL) is essential, as may positively affect their health and well-being. Despite growing number of publications in recent years, YHL is still under-researched. The aim of the study was therefore to examine health literacy in young individuals.

**Methods:** This cross-sectional study is based on data from n=801 youths aged 16-24. The HLS<sub>19</sub> measurement instruments were used to map HL in the current sample, and data were collected using computer-assisted telephone interviews. Estimated Rasch based proficiency and standard error corresponding to the measurement scale's sum score were used to define HL levels. Descriptive statistics were performed to report on single items, whereas inferential statistics were used to investigate associations between HL and various independent variables.

**Results:** The preliminary results suggest three levels of HL (3, 2, 1 or below 1) in which 36% scored at level one or below, as measured by HLS<sub>19</sub>-Q12-NO\_Norwegian. These individuals might typically struggle e.g. to judge if the information on health risks in the mass media is reliable and to find information on how to handle mental health problems. Among others, 40% found it (very) difficult to find information on how to handle mental health problems. Youths being financial deprived or having long-term illness were found to have lower HL than others.

**Conclusions:** Many youths may lack key knowledge and skills to make choices and actively take part in decisions concerning their own health. Identified significantly different HL levels and trends within specific contexts will be of great importance for future policy formulation and health practice.

*Keywords: Rasch modeling, health literacy levels, youth health literacy, HLS19*

Topic: Others  
Abstract No: 13379

## **Validity and reliability of the Arabic version of the European Health Literacy Questionnaire (HLS-EU-Q47-Arabic)**

Mawia Beshiti<sup>1</sup> ; Nik Daliana Nik Farid<sup>1</sup> ; Mahmoud Danaee<sup>1</sup> ; Tin Tin Su<sup>2</sup>

<sup>1</sup>*Social and Preventive Medicine/ Faculty of Medicine, University of Malaya/ Malaysia,* <sup>2</sup>*School of Medicine and Health Sciences/ Monash University / Malaysia*

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Health literacy (HL) is a public health concern that refers to an individual's, competence to access, understand, appraise and apply health information to prevent illness and promote a healthy lifestyle. This study aimed to adapt a globally recognized tool for assessing the European Health Literacy Questionnaire (HLS-EU-Q47) into Arabic. The questionnaire was translated into Arabic. The Forward-backward translation method was used for linguistic validity. The content of the questionnaire was judged by public health expert panels. Face validity was assessed among a purposive sample of Libyan parents of primary school students in the West area of Libya. HLS-EUQ47 was administered to 470 Libyan parents of primary school students in the West area of Libya. Construct validity was assessed by confirmatory factor analysis. Convergent validity was examined using the Composite Reliability (CR) and Average Variance Extracted (AVE). Discriminant validity was tested by examining the square root of AVE for each construct against correlations, reliability was examined using Cronbach's alpha coefficient and Intra-Class Correlation Coefficient. The questionnaire was shown to have good construct validity, satisfactory goodness-of-fit of the data to the hypothetical model in three health literacy domains, high internal consistency (Cronbach's alpha >0.90), satisfactory convergent validity. This study revealed that the HLS-EU-Q47-Arabic was a valid and reliable measuring instrument, satisfactory and comprehensive measuring health literacy survey tool for use in Arab countries.

*Keywords: Validation, Health literacy, HLS-EU-Q47Arabic, Confirmatory Factor Analysis, Libya*

Topic: Research and new measures for health literacy  
Abstract No: 13345

## **Building a health literacy indicator from the first demographic health survey in Angola**

Neida Ramos<sup>1</sup> ; Inês Fronteira<sup>1</sup> ; Maria Martins<sup>1</sup>

<sup>1</sup>Global Health and Tropical Medicine/ Instituto de Higiene e Medicina Tropical, Universidade NOVA de Lisboa/ Portugal

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Health literacy is a determining factor for the health of the population and paramount for their ability to decide correctly and effectively on health issues. Low health literacy can be a silent source of major problems for citizens and their governments.

This study aimed at computing a health literacy indicator for Angola using the health literacy framework from World Health Organization conceived for development countries and analyze demographic characteristics related with that indicator.

**Method:** We used data from 19,785 individuals aged between 15 and 49 years who participated in the first demographic health survey conducted in Angola in 2015 and that included questions on health literacy according to its definition by the Institute of Medicine. The health literacy indicator was computed using Factor Analysis (principal component analysis), using ten variables related to the four dimensions of health literacy (access, understanding, interpretation and decision-making). Logistic regression was employed to describe the relationship between demographic characteristics and the computed health literacy indicator, while controlling for possible confunders.

**Results:** About 31,4% of respondents had high prevalence of health literacy. Health literacy was higher in individuals between 20 and 24 years of age (33.9%); (odds ratio, OR 1.45; 95 % confidence interval, CI 1.25–1.69). Women had lower health literacy levels (27.2%) when compared to men (44.9%), (OR 0.61; 95% CI, 0.55-0.67). Individuals with a higher level of education had a higher prevalence of health literacy (65%), as well as individuals living in urban areas (44%), (OR 0.19; 95% CI, 0.17-0.21) when compared to those living in rural areas (7%).

### **Conclusions :**

This is the first investigation into health literacy conducted in a large-scale in a Portuguese-speaking African country, where data from nearly twenty thousand adult people were analyzed. This investigation made possible to find a classificatory measure of health literacy in Angola, applied on a large scale, based on the conceptual aspects of the definition of health literacy presented by the American Institute of Medicine.

*Keywords: Health literacy; Angola; Africa; Adults; Assessment tool*



## Oral Presentation: Session Oral 19, Oct. 5th (Tue.) 16:30-18:00

Topic: Organizational health literacy  
Abstract No: 13428

### Building health systems that are mental health literacy responsive

Shandell Elmer<sup>\*1</sup> ; Richard H Osborne<sup>1</sup> ; Roy Batterham<sup>1</sup>  
<sup>1</sup>School of Health Sciences/ Swinburne University of Technology/ Australia

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### Introduction

Creating an environment for healthcare encounters where people are supported to receive the information and care that they need to participate in decisions about their health, requires a focus on the physical surroundings, and the organizational structures and systems. For organizations to respond to the needs of people with lived experience of mental health issues, that is, to be mental health literacy responsive, their services, programs, support and information need to be provided in ways that promote equitable access and engagement, and meet the diverse mental health literacy strengths, limitations and preferences of all people. What organizations look like, feel like and do to be mental health literacy responsive needs to be defined by people with lived experience.

##### Methods

The Ophelia (Optimising Health Literacy and Access) process was applied to collaborate with people with lived experience and develop mental health literacy profiles. These profiles were presented as vignettes in online workshops held with people with lived experience and service providers to generate ideas about ways organizations can be mental health literacy responsive.

##### Results

The ideas from the workshops were thematically analysed and eleven action areas to build health system responsiveness were identified. These action areas have informed the development of training, education and resources to assist organizations to build their mental health literacy responsiveness. A tool to support quality improvement based on the eleven action areas has been co-designed with Primary Health Networks. The tool includes: a description of the key characteristics of each action area; helpful hints and examples; a discussion guide to explore the alignment between each action area and local needs and priorities; a self-assessment process; and a quality improvement action plan.

##### Lessons learned

Unlike other organizational health literacy approaches that define organizational qualities, this tool describes health service provider capabilities and practices, as well as service organization, capacity and integration. This quality improvement tool is a useful mechanism for improving mental health literacy responsiveness as it clearly specifies the actions required by people within organizations. The inherent systems-focus facilitates inter-organizational ways of working to support system-wide improvements across local regions.

*Keywords: Mental health literacy responsiveness; quality improvement; people with lived experience; Ophelia; health systems*



Topic: Organizational health literacy  
Abstract No: 13394

## Purposeful governance and meaningful engagement enhancing mental health literacy: an Australian Case study

Ranjit Gajendra Nadarajah<sup>1</sup> ; Tania Waitokia<sup>2</sup> ; Jonathan Harms; Jenna Roberts

<sup>1</sup>Centre for Global Health and Equity/ Swinburne University of Technology/ Australia, <sup>2</sup>Project Manager Health Literacy / Mental Health Commission of New South Wales / Australia

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Australia is home to people from diverse backgrounds; one in five Australians experience mental ill-health in any given year with many not accessing mental health services when they need it or in a way that responds to their needs.

Within the context of public health, there are close connections between the principles of governance and human rights; the participation of those affected by public health is both an important principle of governance and a recognized dimension of the right to health. The principle of fairness and equity ensures that *no one is left behind*.

Australian mental health policy has promoted lived experience participation since 1992 and subsequent governments have insisted of participation by people with lived experience, their family, friends and carers in service delivery and planning. Research cautions that co-design processes must ensure lived experience voices have equal weighting and participation at all levels of the system. Their individual and collective engagement, facilitated and enabled through purposeful governance is essential to enhance responsiveness.

The Australian community expects governance of public funded research to ensure all research is conducted responsibly, ethically and with integrity. Research governance not only implements the principles, requirements and standards of research it addresses, but provides protection of research participants, ensures the safety and quality of research, privacy and confidentiality.

Using a case study methodology, this paper critically reviews the multidimensional, purposeful, context-specific governance processes and mechanisms of the *Health Literacy Initiative* of the Mental Health Commission of New South Wales (Commission), Australia and its relevance to meaningful co-design.

The Commission with funding from the Commonwealth Health Innovation Fund has adopted an engagement, participation and co-design approach using the Ophelia framework aimed at enhancing the sensitivities and practical skills of health professionals and frontline service providers. In partnership with a consortium of universities led by Swinburne University of Technology and including the University of New South Wales and the University of Newcastle, and over fifty NSW health and community organisations, this initiative is one of the most ambitious mental health literacy projects ever undertaken in Australia.

*Keywords: Governance; mental health literacy; co-design; Ophelia; public health*



Topic: Organizational health literacy  
Abstract No: 13458

## Indicators of health care organization web communication: a review

Elisabetta Corvo<sup>\*1</sup> ; Walter De Caro<sup>2</sup>

<sup>1</sup>*School of Allied and Public Health Professions/ Canterbury Christ Church University/ United Kingdom* <sup>2</sup>*CNAI/ Italian National Nursing Association/ Italy (Italia)*

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Over the past 10 years with the spread of the internet in many households, as well as the ease of finding information, there has been an increase in the number of people searching for news online. In addition to searching for information online using the most varied search engines, the general public accesses a whole series of, so to speak, institutional sites to get news or information. Many hospitals have had to develop their own website accessible from the general public to inform users about services and how to access the hospital itself; obviously the development of these sites is meant to be used by the greatest variety of people with the most varied levels of literacy and health literacy.

A narrative review of the literature from the past 5 years was conducted on the literature measuring the performance of hospital / health care facilities websites. The goal is to identify what kind of websites are developed in hospitals / health care facilities (repository or communication) trying to identify which indicators are most used to positively or negatively evaluate a website.

The results show that there are a variety of indicators and that websites are often developed more as an internal rather than an external means of communication.

In recent years, however, in the light of the pandemic there has been a greater focus on external communication.

*Keywords: hospitals, Health information, indicator, website*



Topic: Organizational health literacy  
Abstract No: 13315

## Health literacy for all: Developing health literacy responsiveness at national health authority level

Anna Sofia Elisabeth Aaby<sup>1</sup> ; Maiken Meldgaard Ebbesen<sup>\*1</sup> ; Helle Terkildsen Maindal<sup>1</sup>  
<sup>1</sup>Department of Public Health/ Aarhus University/ Denmark (Denmark)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### Introduction

Improving health literacy responsiveness at all levels is crucial in mitigating the effect of social health inequality. Being a health literate organization entails a range of features in order to make information and services accessible and available. Brach et al. (2012) specifically described ten attributes of such organizations.

The purpose of this study is to report on a process aiming to improve health literacy responsiveness of the administrative work of the Danish Health Authority.

#### Methods

The Danish Health Authority has a national responsibility for health issues and work to ensure public health and healthcare services of high quality across Denmark. The institution communicates with a range of organizational stakeholders, health professionals, and ultimately Danish citizens.

In this study, each of the Danish Health Authority administration's 8 departments appointed 2 frontrunners dedicated to the integration of health literacy in one or more project/work assignment. The projects/work assignments served as study cases.

All frontrunners were invited to participate in 3 workshops between which they worked on their cases. The workshops introduced the ten attributes of health literate organizations. Participants were guided to apply the attributes to their case and evaluate their applicability and effect.

Based on this evaluation, we did a thematic analysis identifying 5 health literacy focus areas: "leadership and culture", "work processes", "external products", "political environment", and "external target groups". Each of the original ten attributes was ascribed to one or more theme and characterized further based on local work features. Finally, the analysis informed a preliminary organizational health literacy model adapted to the tasks and circumstances under which the Danish Health Authority perform their responsibility.

#### Results

At the summit we will present the final organizational health literacy model. The model will serve as a structure around the impending development of diverse materials to support the integration of health literacy responsiveness in the Danish Health Authority Administration.

#### Conclusion

Our preliminary results show, that it is feasible to work with health literacy responsiveness in health organizations with administrative focus and at distance from the ultimate target group of vulnerable populations, thus supporting health literacy for all.

*Keywords: Health literacy responsiveness ; Health literate organizations ; Health inequity ; Health policy ; Health administration*

Topic: Organizational health literacy  
Abstract No: 13573

## **Measuring organizational health literacy – a comprehensive model and self-assessment tool for hospitals**

Jürgen Pelikan<sup>\*1</sup> ; Peter Nowak<sup>2</sup> ; Christoph Schmotzer<sup>2</sup> ; Christa Straßmayr<sup>2</sup> ; Diane Levin-Zamir<sup>2</sup>

<sup>1</sup>WHO-CC Health Promotion in Hospitals and Health Care/ The Austrian Public Health Institute / Gesundheit Österreich GmbH/ Austria (Österreich), <sup>2</sup>International working group/ „Health Promoting Hospitals and Health Literate Healthcare Organizations (HPH & HLO)“/ Austria (Österreich)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** A considerable proportion of patients have limited health literacy (HL), which has detrimental effects on their use and outcomes of health care services. This was first demonstrated in the US and later confirmed by research in Europe and Asia. To deal with patients with low HL, first specific interventions were piloted in the US, but later a whole systems approach was propagated by the Institute of Medicine (IOM) by its publication “Ten Attributes of a Health Literate Health Care Organization” (Brach et al., 2012). This initiated the development of concepts and tools for measuring “health literate organizations” or “organizational health literacy” for hospitals and health services, and beyond also for other settings.

**Methods:** The „Vienna Concept of Health-Literate Hospitals and Healthcare Organizations“, by using the Ten Attributes of IOM, the settings approach of health promotion and quality management, developed a more comprehensive matrix model and a self-assessment tool (following ISQUA rules) with 9 standards, 22 sub-standards and 160 indicators, and piloted it in 9 Austrian hospitals. The Vienna tool, originally in German language, was later translated and piloted in French, Italian and Mandarin. An international working group of the International network of Health Promoting Hospitals and Health Services (HPH), including researchers from 12 countries, developed based on a translated English version of the Vienna tool an international instrument for systematic testing in different countries.

**Results:** A revised international self-assessment instrument in English language is offered, with 8 standards, 23 sub-standards and 156 observable indicators and with recommendations for the process of administering the instrument. For each standard, a rationale is given, explaining the relevance of the standard. Implementation of indicators is to be answered using 4 categories (yes, rather yes, rather no, no). The generic English version of the tool is and will be translated into different languages and tested in hospitals in different countries.

**Conclusions:** The international self-assessment tool for organizational health literacy (responsiveness) of hospitals is designed to assist management and staff of hospitals to consider, assess and improve the health literacy responsiveness of their organization to better serve their patients, staff, and local population.

**Keywords:** Organizational health literacy, organizational health literacy responsiveness, health literate organizations, health literate hospitals, measurement of health literacy



## Oral Presentation: Session Oral 20 Health literacy and clinical healthcare settings (incl primary care)

Oct. 5th (Tue.) 16:30-18:00

Topic: Health literacy and clinical healthcare settings (incl primary care)

Abstract No: 13293

### Developing a usable, practical and adaptable patient education documentation guide at the University Health Network

Sophia Wong<sup>\*1</sup> ; Melissa Yan<sup>\*1</sup> ; Alaina Cyr<sup>1</sup> ; Kayla Basacco<sup>1</sup>

<sup>1</sup>Patient Education and Engagement/ University Health Network/ Canada

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### Background

The University Health Network (UHN) is a health systems network composed of 4 multi-site hospitals. In 2014, UHN Patient and Family Education launched an evidence-based guide that outlines best practices in conducting patient education (e.g. plain language and teach-back use) and concrete ways to document it in the patient chart. In 2019, we extended the guide to apply across different health professions throughout the organization, reviewed the usability of the guide to promote more consistent use, and designed an e-learning course to help clinicians practice their documentation skills.

##### Methods

UHN Library Services conducted an environmental scan to find updated literature on patient documentation best practice but findings were limited and profession-specific. We interviewed 18 health professionals (including clinical and education leaders), and presented at practice group meetings to learn about their documentation practices and how the existing guide was used in everyday practice. We also partnered with a patient to help inform how they want their education documented. We revised the guide to reflect these findings and confirmed changes with representatives from all stakeholder groups.

##### Results

The previous guide was helpful when developing documentation forms and organizational policy on documentation, however it was too long and dense for frontline staff to regularly review and practice. Our revisions aimed to be more concise while highlighting the key points in patient education documentation. We added documentation examples using standardized forms (e.g. nursing documentation form) and narrative documentation. We also created a one-page summary for frontline staff to refer to and keep in their units. Finally, we created an e-learning module that incorporated 4 patient scenarios and encourages staff to practice applying documentation best practices, and reflect on their teach-back and plain language use.

##### Conclusions

The revised documentation guide is more concise and practical for staff to use in their everyday documentation. Clinicians are able to effectively document their use of best practice in patient education, like teach-back and plain language in patient chart. The guide is now available in multiple formats, including an interactive e-learning module with practice questions, to help reinforce the importance of patient education documentation across health professions.

*Keywords: Patient education, Patient engagement, Documentation, best practice*

Topic: Health literacy and clinical healthcare settings (incl primary care)  
Abstract No: 13372

## Individuals' proficiency in active participation in health care communication – results from the HLS19 -survey

Hanne Sørberg Finbråten<sup>1</sup> ; Peter Nowak<sup>2</sup> ; Éva Bíró<sup>3</sup> ; Henrik Bøggild<sup>4</sup> ; Rana Charafeddine<sup>5</sup> ; Julien Mancini<sup>6</sup> ; HLS19-Com Working Group

<sup>1</sup>Health and Nursing Sciences/ Inland Norway University of Applied Sciences/ Norway (Norge), <sup>2</sup>Austrian Public Health Institute/ Austrian Public Health Institute/ Austria (Österreich), <sup>3</sup>Department of Public Health and Epidemiology/ University of Debrecen/ Hungary (Magyarország), <sup>4</sup>Public Health and Epidemiology/ Aalborg University/ Denmark (Danmark), <sup>5</sup>Department Epidemiology and public health/ Sciensano/ Belgium, <sup>6</sup>Department of Public Health, SESSTIM, BioSTIC/ Aix-Marseille University, APhM, Inserm, IRD/ France

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Introduction**

Health care communication and patient participation in health care have been recognized as a decisive part of health literacy. Communicative health literacy is the skill that enables individuals to seek information and actively participate in communication with health care providers, derive meaning from the obtained information and apply the information to manage health. The focus on communication has become increasingly important because of the change in the patients' role and the demand for more patient participation and shared decision-making. Sufficient communication skills are a critical determinant of successful disease management and health outcomes.

#### **Objective**

To describe how communicative health literacy in health care is distributed in general populations. Communication in health care in this research relies on face-to-face interaction in co-presence with doctors.

#### **Methods**

In total, 17825 adults across eight European countries responded to the 6-item version of the HLS<sub>19</sub>-instrument for measuring health literacy relating to communication in health care services in the general population (HLS<sub>19</sub>-COM-Q6). Data were collected using either web, telephone, or personal interviews. The HLS<sub>19</sub>-COM-Q6 displayed acceptable psychometric properties and reliability indexes (Cronbach's alpha: 0.885; Person separation index: 0.809).

#### **Results**

Preliminary results indicate that on average one sixth of the individuals find it difficult to communicate with their doctors (ranging from 9 to 27% between the countries). The HL-COM-Q6 scores were in most countries moderately correlated with general health literacy score ( $r$  ranging from 0.27 to 0.52 between the countries). To get enough time in the consultation with the doctor and to express personal views and preferences to the doctor were experienced as the most difficult items. The youngest group (aged 18–25) and those with a lower socio-economic status were found to have lower proficiency in communicative health literacy.

#### **Discussion and Conclusion**

Proficiency in communicative health literacy follows the social gradient and interventions are necessary to reduce health inequalities. Doctors should be aware that individuals have different ability to participate actively in the communication and should adapt the communication accordingly. Differentiating time in the consultation for groups with low communicative health literacy might be a way to alleviate this.

*Keywords: active participation; communicative health literacy; communication in health care; HLS19; social inequality*

Topic: Health literacy and clinical healthcare settings (incl primary care)  
Abstract No: 13322

## The differential impact of health literacy dimensions on treatment adherence of diabetic patients

Charlotte Leemans<sup>\*1</sup> ; Marie-France Philippe<sup>1</sup> ; Stephan Van den Broucke  
<sup>1</sup>*Clinique de la sexualité/ Grand Hôpital de Charleroi/ Belgium*

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Health literacy is known to influence adherence to treatment recommendations and self-management in chronic patients. However, studies demonstrating the impact of health literacy on treatment adherence generally measure the patient's health literacy level in a general way, without distinguishing between specific health literacy skills. The present study aimed to investigate the impact of four specific dimensions of health literacy (understanding, evaluating, accessing, applying) on self-management behavior and well-being of diabetic patients.

**Method:** A sample of 107 diabetic patients consulting at a Belgian hospital completed the Health Literacy Survey (HLS\_EU\_47), the Diabetes Self-Management Questionnaire (DSMQ\_16), and two direct questions measuring self-reported adherence to the doctor's treatment recommendations and perceived difficulty of self-management. The predictive value of health literacy and of the four sub-dimensions of the health literacy on diabetes self-management, treatment adherence and perceived difficulty in self-management, in addition to demographic and medical predictors (patient's age at onset and at diagnosis, complications, comorbidities, having received a training in disease self-management) was tested using stepwise multiple regression analyses.

**Results:** Having received self-management education and the presence of complications significantly predicted treatment adherence and self-management. This impact increased slightly when scores on the 4 sub-dimensions of health literacy were added as predictors. Of the four subdimension of health literacy, evaluating health information adds most to the prediction of treatment adherence and self-management.

**Conclusion:** While treatment adherence and self-management of diabetes are most strongly influenced by patient education, complications of the disease, and age at diagnosis, health literacy adds to the prediction. Among the subdimensions of health literacy, the dimension evaluating information has the greatest impact on adherence to the doctors' recommendations and self-management.

**Keywords:** *diabetes, self-management, patient education,*

Topic: Health literacy and clinical healthcare settings (incl primary care)  
Abstract No: 13105

## Development and validation of a self-assessment-tool to increase health literacy in primary care settings in Switzerland

Saskia Maria De Gani<sup>1\*</sup> ; Rebecca Jaks<sup>1</sup> ; Natascha Stürmer<sup>1</sup> ; Dunja Nicca<sup>1</sup>  
<sup>1</sup>Careum Health Literacy/ Careum Foundation/ Switzerland (Schweiz)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Health literacy is an important health determinant. More than half of the population in German-speaking countries report low health literacy, which is related to worse health outcomes. One approach to improve health literacy is to reduce demands and complexities of healthcare organizations. Health literate organizations facilitate access, navigation, understanding and use of health information and services for the population to take care of their health. Despite the huge potential of health literate organizations, only few efforts have been taken to capitalize on it so far, especially in primary care settings of German-speaking countries. Therefore, the aim of the present project is to improve health literacy of primary care organizations by developing and validating a self-assessment-tool.

This self-assessment-tool allows primary care settings to assess and improve their potential as health literate organization. In a first step, we devised a checklist in regards to a self-assessment of six dimensions defining a health literate organization, e.g. clear and easy to understand communication, integration of health literacy in organizational structure and culture, staff training, strengthening health literacy skills of clients and on different interfaces. Based on the results, organizations are able to identify need for action, plan and implement improvement activities. Additionally, we composed a handbook describing a set of instruments and strategies to support the organizations' improvement process. In a second step, we validated the tool in four family practices and eight outpatient care services in the canton of Zurich. For evaluation in terms of user-friendliness, usability and usefulness, we conducted focus groups with inter-professional staff members and expert interviews. A standardized questionnaire assessed development of professionals' knowledge and attitudes regarding health literacy. Based on the evaluation results, we adapt the self-assessment-tool and provide all materials free of charge.

This project is funded by «Gesundheitsförderung Schweiz» and realized by the Careum Foundation Zurich and the Health Department of the Canton Zurich, in cooperation with «medix Zürich» and «Spitex Zürich Limmat». The self-assessment-tool was developed in 2019 and is tested in pilot organizations in spring 2020. Therefore, the tool as well as the evaluation results will be presented at the conference.

*Keywords: health literate organizations; primary care; self-assessment-tool; checklist; healthcare settings*

Topic: Health literacy and patient safety  
Abstract No: 13404

## Health Literacy levels and patient safety concerns based on a nationwide survey among people with private health insurance in Germany

Katharina Achstetter<sup>1</sup> ; Julia Köppen<sup>1</sup> ; Miriam Blümel<sup>1</sup> ; Reinhard Busse<sup>1</sup>

<sup>1</sup>Department of Health Care Management / Berlin Centre of Health Economics Research/ Berlin University of Technology/ Germany (Deutschland)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### **Introduction**

Health insurance is mandatory in Germany. Most people are covered by statutory health insurance (SHI), but 11% are covered by full “substitutive” private health insurance (PHI). This latter group comprises civil servants, the self-employed, and people with an income above a certain threshold (in 2021: 64 350 €/year) who choose to opt out from SHI. However, this specific population group is underrepresented in health services research in Germany. Therefore, experiences of people with PHI regarding healthcare (e.g. patient safety) in Germany according to their level of health literacy (HL) were subject to this research. The aim was to analyze if people with limited HL perceive patient safety concerns more often.

#### **Methods**

In 2018, a survey was conducted among 20,000 people with full PHI in Germany. Survey data were linked with health insurance claims data (e.g. diagnoses, hospital stays, use of pharmaceuticals). Survey items were based on the intermediate and final goals of the WHO Health Systems Framework, e.g. patient safety. HL was assessed with the German version of the HLS-EU-Q16 questionnaire. Descriptive statistics and Chi-square test were used to analyze the data and group differences.

#### **Results**

Overall, 3,109 people (15.5%) participated in the study (58.9 years  $\pm$ 14.5; 65% male, 80% with high education level). Limited HL was seen in 43.7% (8.0% inadequate & 35.7% problematic), whereas 56.3% did not report limited HL (44.1% sufficient & 12.2% excellent). Limited HL was higher among men, younger people, people with poorer health status, and people with higher healthcare costs. Among those with limited HL, 17.9% suspected medical errors in their treatment (vs. 10.8% with not limited HL) and 5.1% were unsure (vs. 2.2%). Wrong test results were reported by 5.2% (vs. 3.1%) and wrong medication by 7.9% with limited HL (vs. 4.8%). All results were statistically significant ( $p < 0.001$ ).

#### **Conclusions**

Limited HL was found in 43.7% of the PHI-insured participants, which is in line with previous research among the general German population. Participants with limited HL perceived more often safety concerns in their healthcare interactions. This could be explained by limited communication skills with healthcare professionals and lack of critical questioning.

*Keywords: Health Literacy; Patient safety; Germany; Private Health Insurance; Survey*



## Oral Presentation: Session Oral 21 Digital and technological health literacy Oct. 5th (Tue.) 16:30-18:00

Topic: Digital and technological health literacy  
Abstract No: 13374

### The case for teaching influence literacy

Theresa (Terri) Senft<sup>\*1</sup> ; Tim Nguyen<sup>2</sup> ; Tina Purnat<sup>\*3</sup> ; Elisabeth Wilhelm<sup>\*4</sup>

<sup>1</sup>Media, Music, Communication & Cultural Studies/ Macquarie University/Senior Lecturer in Social Media/ Australia, <sup>2</sup>Infodemic Management / World Health Organization (WHO) /Head of Unit, High Impact Events Preparedness/ Switzerland (Schweiz), <sup>3</sup>Digital Governance Section, Digital Transformation Unit/ European Centre for Disease Control (ECDC) /Principal Expert in eHealth and Digital Innovations for Public Health/ Sweden (Sverige), <sup>4</sup> Vaccine Task Force, Demand for Immunization Team, Global Immunization Division/ Center for Disease Control (CDC)/Co-Lead, Vaccine Confidence Team/ United States

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

This paper advocates a conceptual paradigm we call *influence literacy* to explain how information with a high emotional charge seems to dominate social media flows. It can be especially useful for understanding dynamics like the spread of viral rumours online, such as the recent emergence of the #FilmYourHospital conspiracy from a single tweet.

In conversations about health misinformation, it is common to hear about the importance of *information literacy*: critical thinking about where information can be found, and the authority of sources. Conversations also reference *media literacy*, which tends to conceptualise information in terms of specific messages that are crafted by specific messengers, delivered over specific media formats, and received by specific media audiences—some intended, others not.

Useful as these are, neither of these helps explain two online realities every young person today intuitively understands. First, on social media platforms, some voices will always wind up amplified over others. Second, for every individual or organisation who manages to “game the platform” to promote ideas, there is another who is “gamed,” finding themselves abused online in ways that are worsened by algorithmic amplification.

Enter influence literacy. Combining insights of data literacy and persuasive computing, influence literacy’s first mission is a critical understanding of how platforms value users less as audience, than as producers of messages, responses, and data. The second objective involves an appreciation of how metrics of popularity (likes, followers, ratings, personal reputation) and censure (negative commentary, harassment, weaponization) morph into bodily experiences like esteem, shame, risk, and reward.

Our paper includes a map called the Influence Ecosphere, which explains platform relationships between social media actors; automated events; psychological states; interface triggering; emotional drivers (including algorithmic tracking and platform control); and social discourses (about social media at large, and about specific social media practices.)

*Keywords: infodemic, influence, misinformation, algorithm, social media*



Topic: Digital and technological health literacy  
Abstract No: 13456

## Digital health literacy of Hungarian adults based on the results of the Health Literacy Survey 2019

Éva Bíró<sup>1</sup> ; Gabriella Mátyás<sup>1</sup>

<sup>1</sup>Department of Public Health and Epidemiology/ University of Debrecen Faculty of Medicine / Hungary (Magyarország)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

#### Introduction

In spite of the accelerating health literacy research in the last few decades, only limited data are available about the general health literacy of the Hungarian adult population and even less about the level of digital health literacy.

#### Objective

The aim of this cross-sectional survey was to provide a snapshot of the digital health literacy of Hungarian adults.

#### Methods

Data was collected by a polling company in a representative sample of the adult population (N = 1206) with computer-assisted telephone interviewing below the umbrella of the Health Literacy Survey 2019. The questionnaire included items among others on demographic and socioeconomic data, subjective well-being, general and digital health literacy. Statistical weights were applied to ensure that estimates reflect the general adult Hungarian population by gender, age group, educational level, settlement type.

#### Results

The mean age of the respondents was 48.0 years (standard deviation: 17.5 years), 47% of them were male. Regarding the digital health literacy, 29% of respondents found searching online for health-related information rather difficult, while 71% found it rather easy. Digital health literacy was less favourable among those who belong to the older age groups, can be characterized by lower socioeconomic status and worse health status. The mean score of the digital health literacy scale (71.8, 95% confidence interval, CI 70.1-73.5) was lower than the average score of the general health literacy (79.8, 95% CI 78.7-80.9).

#### Conclusions

Findings suggest that almost one-third of the adult Hungarian population has low digital health literacy, but the level of general health literacy is a little bit higher. Especially in the present pandemic situation, it would be worth implementing interventions to enhance digital health literacy, with a particular focus on the vulnerable groups.

*Keywords: digital health literacy; Hungary; Health Literacy Survey 2019; vulnerable groups*

Topic: Digital and technological health literacy  
Abstract No: 13352

## The need for consumer digital health literacy in the consumerism age: parental misconceptions of their ability to identify native advertising

Naama Appel-Doron<sup>\*1</sup>; Nurit Guttman<sup>1</sup>  
<sup>1</sup>Communications/ Tel Aviv University/ Israel (ישראל)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background and problem:** Health information is among the most searched topics on the internet. Whereas internet websites and social network sites offer the general population accessibility to a wide range of helpful online health information, a lot of it is aimed to serve commercial interests. This information is often cleverly disguised as if it is provided by healthcare professionals or by “authentic” lay users, who share their (presumably unbiased) opinions or personal experiences, without disclosing their commercial motives, referred to as the “native advertising phenomenon”. Therefore, in this era of consumerism it is important to develop an understanding of and tools for consumer digital health literacy by utilizing components from four types of literacies: health, media, digital and consumer. Toddlers’ parents are an important population to study for this purpose because they are predisposed to search for online health information concerning their children and are highly exposed to disguised commercially motivated content.

**Objectives and Methods:** To develop an understanding of consumer digital health literacy needs by studying how parents of toddlers’ understand, evaluate, and criticize online health information and how they perceive its’ influence on their behavior and opinions. A qualitative study, which includes two types of 40 semi-structured interviews with parents of toddlers: One focusing on attitudes and perception regarding the phenomenon of “native advertising” and its ethics, and the second, a simulation in which Interviewees are asked to evaluate and criticize examples of health native advertising from websites and social network sites and explain how they conduct their critical assessment.

**Results:** Parents in the simulation interviews mainly failed to recognize at least one of the native advertising examples. However, they overestimated their consumer digital health literacy skills. Both types of interviews revealed a “Third Person Effect”: most interviewees thought they can identify and are not influenced by native advertising, but assumed other people are.

**Conclusions:** There is a need to develop tools for consumer literacy in addition to the established digital health literacy skills. Because of its potential influence, it is particularly important to study and develop tools to address the phenomenon of native advertising regarding health issues.

*Keywords: digital health literacy, native advertising, parents, consumer literacy*

Topic: Digital and technological health literacy  
Abstract No: 13292

## Digital health literacy and web-based information-seeking behaviors of university students in Turkey during the covid-19 pandemic: A Cross-sectional study

Pinar Soylar<sup>\*1</sup> ; Buğra Otludil<sup>2</sup> ; İlker Kayı<sup>2</sup> ; Gizem Uzunköprü<sup>2</sup> ; Pınar Dünder<sup>3</sup> ; Nadi Bakırcı<sup>4</sup> ; Sibel Sakarya<sup>2</sup>  
<sup>1</sup>Health Science / Fırat University/ Turkey (Türkiye), <sup>2</sup>Public Health/ Koç University/ Turkey (Türkiye), <sup>3</sup>Public Health/ Manisa Celal Bayar University/ Turkey (Türkiye), <sup>4</sup>Public Health/ Acıbadem University/ Turkey (Türkiye)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

Digital health literacy (DHL) enables people to search, find, understand, and use health information from electronic sources to solve a health problem. The issue of DHL has gained special importance during the Covid 19 pandemic since it is a new disease, and it has many unknowns.

The aim of the study was to investigate university students' DHL and web-based information-seeking behaviors during the Covid-19 pandemic in Turkey.

This cross-sectional study is part of Covid-HL Consortium and conducted in four universities in Turkey with a convenience sample. An online survey was used to collect data about sociodemographic information, web-based information-seeking behavior and validated Digital Health Literacy Instrument (DHLI) adapted to the context of the Covid-19 pandemic. Descriptive analysis was presented as percentages, mean, median and standard deviation. Comparative analysis was done by using Chi square and T test.

A total of 1665 students participated of whom 70.7% were female and mean age was 21.02 (SD=3.17). Cronbach's  $\alpha$  for DHLI was 82%, mean DHLI score was 40.55 (SD=6.28) (range:15-60). Female students had lower mean score (40.26, SD=5.89) than men (41.29, SD=7.15) ( $p<0.05$ ); students who reported low social status had lower mean score (39.27, SD=6.14) than the students in the high social status (41.85, SD=7.07) ( $p<0.05$ ). The DHL level for Covid-19 did not differ according to the subject students were studying, type (public vs private) and location of university. Search engines, social media and news portals were most often used electronic sources by students. The most searched topics related to Covid-19 were the symptoms, the number of infected cases and restrictions.

The most difficult issues were evaluating the reliability of health-related information (74.3%) and determining whether the information was written with a commercial interest (69.3%) among DHLI dimensions. Students also reported that when they search health related information, it was very important that the information was verified and updated.

The level of DHL among university students on Covid 19 related information was moderate. It seems a priority to make reliable sources of information accessible and to improve the competence of resource reliability of university students.

*Keywords: health literacy; Covid-19; university student; digital health; behaviour; health information*

Topic: Digital and technological health literacy  
Abstract No: 13291

## Applying the integrative model of eHealth use to understand online health behaviors of adults in Singapore

Zoe Ong<sup>\*1 2</sup> ; Chitra Panchapakesan<sup>1</sup> ; May Lwin<sup>1</sup>

<sup>1</sup>Wee Kim Wee School of Communication and Information/ Nanyang Technological University/ Singapore, <sup>2</sup>Interdisciplinary Graduate Programme/ Nanyang Technological University/ Singapore

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Background:** Existing literature on online health behaviors have mainly focused on information seeking and evaluation whereas online health information sharing is still understudied.

**Objective:** This study aims to use the Integrative Model of eHealth Use (IMeHU) as a theoretical framework to examine the relationship between individual characteristics and online health behaviors such as health information seeking, evaluation & sharing.

**Method:** An online survey was conducted amongst nationally representative Internet panel of users living in Singapore, aged 21 to 55 years old (N = 710). The effects of demographic factors (block 1; age, gender, education), personality (block 2; health consciousness, fatalism, self-confidence in health maintenance) and eHealth literacy (block 3) on online health behaviors (information seeking, evaluation and sharing) were examined using hierarchical regression.

**Results:** Factors examined accounted for a substantial amount of variance in online health information seeking (22.0%), evaluation (29.2%), and sharing (14.1%). The greatest R<sup>2</sup> change for online health information seeking (9.9%) and sharing (7.6%) derived from personality variables whereas eHealth literacy had the greatest influence on online health information evaluation (13%). The introduction of eHealth literacy in Block 3 resulted in age and health consciousness becoming non-significant for online health information seeking and evaluation, and health consciousness and self-confidence in health maintenance becoming non-significant for online health information sharing. This suggests that eHealth literacy is a significant mediator of these independent variables. Among the factors that were found to be significant in Block 3, fatalism and eHealth literacy had a positive association with all three online health behaviors. Education had a significant positive association with online health information seeking and evaluation, while self-confidence in health maintenance had a significant negative association. Males were more likely to share health information online, whereas older individuals were less likely to evaluate health information found online.

**Conclusions:** This study adds to knowledge about predictors of online health behaviors in Singapore. Our findings also corroborates with other studies regarding the role of eHealth literacy as a mediator of health behaviors. Further qualitative studies should be conducted to examine the counterintuitive association between fatalism and online health behaviors.

*Keywords: eHealth literacy; online health behaviors; online information seeking; online information evaluation; online information sharing*

Topic: Others  
Abstract No: 13358

## Determinants of health and e health literacy in young adult women

Mariusz Duplaga<sup>1</sup>

<sup>1</sup>Department of Health Promotion and e-Health, Institute of Public Health/ Jagiellonian University Medical College/ Poland (Polska)

### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Introduction.** Fitness influencers are able to accumulate millions of followers. It is hypothesised that the content of the fitness influencers websites (FIW) may incite positive health behaviours. So far, there were no reports about how using FIW impacts health and e-health literacy. This study was focused on the analysis of the association of the level of health (HL) and e-health literacy (eHL) and the use of FIW, sociodemographic variables and other health-related items.

**Methods.** The analysis presented in this paper was based on the data from a survey in a nationally representative sample of young adult women 18-35 years old, being Internet users. HL of respondents was measured with the 16-item European Health Literacy Survey questionnaire and eHL with eHealth Literacy Scale. The linear regression models were developed for HL and eHL as dependent variables.

**Results.** From 1002 respondents, 29.3% (n=1030) accessed FIW at least once weekly. The use of FIW was significantly associated with eHL (beta=0.10, p=0.01), but not with HL (beta=-0.03, p=0.42). HL was likely to be lower in inhabitants of rural than urban areas, in those living in households with the highest than medium net income (beta=-0.11, p=0.003), and in singles than married women (beta=-0.08, p=0.018). Those with the highest self-reported health status were more likely to have higher HL than those with not satisfactory or only satisfactory health status (beta=0.10, p=0.009).

Higher eHL was found among respondents with bachelor's degree in comparison to those with a secondary level of education (beta=0.09, p=0.005), and in those spending on the Internet more than 10 hours than 3 hours weekly (beta=0.08, p=0.028). Lower eHL was observed among respondents not willing to provide the information about the income in comparison to those with a medium level of income (beta=-0.11, p=0.001), in students (beta=-0.12, p=0.001) and vocationally inactive respondents (beta=-0.10, p=0.006) in comparison to employed.

In conclusion, the use of FIW is associated with eHL but not with HL. It also seems that the HL and eHL differ as to their determinants. Furthermore, observed relationships are rather complex.

*Keywords: Internet influencers, health literacy, e-health literacy, young adult women*



## Symposium 11, Oct. 5th (Tue.) 16:30-18:00

Topic: Digital and technological health literacy  
Abstract No: 13470

### **Digital Health Literacy, Social Networks, and College Students in the Time of COVID-19: Insights from the United States in a Global Context**

Tetine Sentell<sup>\*1</sup> ; Philip Massey<sup>\*2</sup> ; Joy Agner<sup>\*3</sup> ; Uday Patil<sup>1</sup> ; Uliana Kostareva<sup>\*4</sup> ; Jennifer Manganello<sup>\*5</sup> ; Molly Hadley<sup>\*5</sup> ; Anam Maniar<sup>\*1</sup> ; Orkan Okan<sup>\*6</sup> ; Kevin Dadaczynski<sup>\*7</sup>

<sup>1</sup>Office of Public Health Studies/ University of Hawai'i at Manoa/ United States, <sup>2</sup>Dornsife School of Public Health/ Drexel University/ United States, <sup>3</sup>Department of Psychology and Social Science Research Institute/ University of Hawai'i at Mānoa/ United States, <sup>4</sup>School of Nursing and Dental Hygiene/ University of Hawai'i at Mānoa/ United States, <sup>5</sup>School of Public Health/ University at Albany / United States, <sup>6</sup>Faculty of Educational Science, Interdisciplinary Centre for Health/ Bielefeld University/ Germany (Deutschland), <sup>7</sup>Health Promotion / Fulda University of Applied Sciences/ Germany (Deutschland)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

The health literacy of college and university students has become a topic of increasing relevance during the COVID-19 pandemic. College students have extensive social/social media networks, often live and interact in close quarters, travel from home to school within and across states, and tend to use digital sources to find information. The health-related decisions and behaviors of these students impact COVID-19 infection rates, health outcomes, and the economic welfare not just of campuses, but also of surrounding communities and local economies. A better understanding of health literacy and digital health literacy for this population is critical to building useful programs, developing policies, and disseminating relevant health information across colleges, universities, health systems, and public health departments. In this panel, we will discuss current research on the health literacy and digital health literacy of U.S. college students.

The health literacy of college students is a particular issue in the United States (U.S.), which lacked a coordinated federal response through much of the pandemic and had conflicting COVID-mitigation policies across states, regions, and communities along with a highly politicized information environment. In this symposium, we will provide: (1) an overview of health literacy, digital health literacy, and misinformation especially in social media; (2) a consideration of health literacy and social networks generally; (3) results from three studies from 2020 and 2021 around these topics in U.S. college students; and (4) place these U.S. studies in a global context. They are part of collaboration with the COVID-HL Consortium, an international network of partners. The surveys across settings have common data elements enabling a global monitoring system on health literacy and digital health literacy and allowing country comparisons across regions and continents.

A discussion will consider similarities and differences in the role of digital literacy across countries and settings. The panel and resulting conversations will provide new insights into the digital health literacy of college students related to COVID. Clear directions for future interventions including information dissemination strategies will be addressed to promote protective behaviors, preventive measures, and adherence to recommendations during COVID-19 and future pandemics.

*Keywords: college students; united states; social media; COVID-19; digital health literacy; social networks*



## Symposium 12, Oct. 5th (Tue.) 16:30-18:00

Topic: Health literacy in professional training and performance (incl Medical / Health Professions Schools, Occupational therapy etc.)

Abstract No: 13454

### **Innovative ways to teach health literacy in the health/medical workforce**

Ying-Wei Wang<sup>\*1 2</sup> ; Jyh-Gang Hsieh<sup>\*1 2</sup> ; Tse-Chang Wang<sup>\*3</sup>

<sup>1</sup>Department of Family Medicine/ Hualien Tzu Chi Hospital/ Taiwan (台灣), <sup>2</sup>Department of Medicine/ Tzu Chi University/ Taiwan (台灣), <sup>3</sup>Department of Health Promotion and Health Education / National Taiwan Normal University/ Taiwan (台灣)

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

##### **Symposium**

Health literacy affects everyone. We all need to be able to find, understand and use health information and services. This symposium will report on three projects that support health literacy, going beyond research towards implementation in practice. The objective is to illustrate a deeper and renewed focus on health literacy by sharing innovative initiatives at Tzu-Chi University, Hualien, Taiwan.

**Introduction:** Introduction to the newly established Tzu-Chi Health Literacy Centre

**Presenter 1** (Jyh-Gang Hsieh, Hualien Tzu-Chi Hospital): **Using an integrated model to teach medical students about health literacy**

To enhance the medical students' communication skills and apply the concepts of health literacy into patient care, we developed an integrated four-week curriculum module into Family Medicine clerkship courses. The module includes an introduction to health literacy, insights to building a health literate organization, and hands-on practice with patient oral communication skills, and creating/assessing health education materials. Pre-/post-surveys were conducted to determine the differences of knowledge, attitude, and communication self-efficacy of students.

**Presenter 2** Tse-Chang Wang, PhD candidate, NTNU): **Take a Walk in Their Shoes**

Navigating the hospital is a difficult task for individuals with limited/low health literacy. For older adults, they can find themselves confused, lost and stressed, placing them at higher health risks. This project was designed to allow participants to “take a walk” and experience ailments sometimes associated with the elderly population. The active participation showcased a higher degree of “empathy” in the students’ learning experiences.

**Presenter 3** (Ying-Wei Wang, Dr, PhD): **How to successfully implement an online synchronized training program on health literacy**

Patient engagement is critical for patient centered care. It is important for health providers to develop a health literate organization for patient engagement. We developed an online synchronized interactive health literacy training program for health providers to enhance their knowledge about health literacy. An effective distant-learning program is critical during the pandemic period. Successful steps for implanting an online training module will be presented in the symposium.

##### **Contact:**

Ying-Wei Wang, Dr, PhD

[drywwang@gmail.com](mailto:drywwang@gmail.com)

##### **Learning outcomes:**

Participant will learn various innovative training methods to teach about health literacy for frontline medical/health professionals.

## Symposium 13, Oct. 5th (Tue.) 16:30-18:00

Topic: Health literacy in adolescence  
Abstract No: 13380

### The use of co-design approaches in adolescent health literacy

Hannah Goss<sup>\*1</sup> ; Sarahjane Belton<sup>\*1</sup> ; Johann Issartel<sup>1</sup> ; Craig Smith<sup>1</sup> ; Celine Murrin<sup>\*2</sup> ; Jennifer Kavanagh <sup>\*2</sup> ; Laura Hickey<sup>\*3</sup> ;  
Janis Morrissey<sup>\*3</sup> ; Kathryn Woods-Townsend<sup>\*4 5</sup> ; Jacquie Bay<sup>\*6</sup>

<sup>1</sup>School of Health and Human Performance/ Dublin City University/ Ireland, <sup>2</sup>School of Public Health Physiotherapy and Sports Science, / University College Dublin/ Ireland, <sup>3</sup>N/A/ The Irish Heart Foundation/ Ireland, <sup>4</sup>Southampton Education School, Faculty of Social and Human Sciences, / University of Southampton/ United Kingdom, <sup>5</sup>NIHR Southampton Biomedical Research Centre/ University of Southampton and University Hospital Southampton NHS Foundation Trust/ United Kingdom, <sup>6</sup>Liggins Institute/ University of Auckland/ New Zealand

#### **Abstract Content (abstracts should be written in Size 11 font, Arial font style)**

**Objective:** Exploring the use of co-design methodology and it's potential to empower young people to improve their own health literacy

#### **Learning outcomes:**

- Understand the value of co-design methods in adolescent health literacy research and practice
- Explore current approaches to co-design in adolescent health literacy work and identify how this can be integrated into practice
- Participate in an accelerated co-design workshop to develop a component of a health literacy intervention
- Identify practical tips for co-design with adolescents

#### **Background:**

Adolescence represents a crucial phase of life where health behaviours, attitudes and social determinants can have lasting impacts on health quality across the life course. The use of authentic, interactive and engaged research methods is particularly important in groups that are underserved by traditional research methods. Co-design is a key component of participatory action research that aims to empower stakeholders to actively engage from the earliest stages of the research process. Consequently, this may increase the likelihood of acceptability, effectiveness and sustainability of co-designed interventions. In the context of health literacy in youth, co-design presents the opportunity to understand perceptions of health, with a view to explore, and ultimately improve, health literacy. This symposium will explore the use of co-design across a range of international research focussed on measuring and improving the health and well-being of young people. Presenters will outline experiences, findings, challenges and, importantly, opportunities to integrate co-design in future health literacy research.

#### **Format:**

Length: 90 minutes

Minutes 0-10: Welcome and introduction *presented by Jacquie Bay*

Minutes 10-40: Presentations

'LifeLab: Change the beginning and you change the whole story' *presented by Kathryn Woods-Townsend*

'Transforming policy and research into practice' *presented by Janis Morrissey/Laura Hickey*

Minutes 40-60: Interactive Session

'Co-designing with youth in 2020- opportunities not challenges' *presented by Hannah Goss and Sarahjane Belton*

Minutes 60-75: Presentation

'The use of co-design in developing a health literacy questionnaire for youth' *presented by Jennifer Kavanagh and Celine Murrin*

Minutes 75-90: Conclusion summarising tips, how to 'manage' co-design in adolescents, and how this can be applied internationally, *presented by Jacquie Bay*

*Keywords: education; wellbeing; participatory methods; engaged research;*