

# The what, why and how of health literacy: a systematic review of literature

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## Abstract

This paper reviews literature on the concept of health literacy. Specifically the paper reviews theoretical aspects on the concept (The What); the rationale behind health literacy and how important health literacy is towards attaining good health (The Why) plus tools and approaches towards measuring and assessing Health Literacy (The How). A documentary research method was used in collecting relevant information from sixty publications. Articles reviewed were from peer-reviewed journals, conference papers, health professional studies, research by recognized independent institutions as well as systematic and narrative reviews on the topic. The review concentrated on literature published from 1970 to 2015 as the concept was developed around 1970s, excluding publications made before 1970s and non-English language publications. It is evident that the concept of Health Literacy has evolved from a basic description of the ability to perform health related tasks that require reading and computational skills, to cover cognitive capacities related to obtaining, processing, and understanding health information, leading up to decision making. There is a great need to have this particular concept and/ or process promoted taking into consideration the purposes, importance and rationale towards health care.

**Keywords:** Documentary Research Method; Documentary Review; Health Literacy; Health Literacy Survey; Systematic Review.

## 1. Introduction

It is apparent that good health is a cornerstone of development in any society (World Bank 1993, WHO 2010, WHO 2012), much as health status of a society is likely to impact all other sectors in the society in a given polity; (politics, society and the economy inclusive) (Ainsworth and Over 1994, Achmat & Cameron, 1995, Baruch & Clancy 2000, Sørensen et al. 2015). Good health boosts labour productivity, educational attainment and income, and so reduces poverty (Udoh & Ajala 2001, Bloom et al. 2004). Likewise the society, politics and the economy of a particular society can impact health status in a given society respectively (Edwards et al. 2012, Sayah & Williams 2012). Ill-health and diseases are now recognized as barriers to economic growth and subsequently to national development in developing countries (Bloom & Canning 2000, WHO 2001, Bloom & Canning 2003; Currie 2009, Strittmatter & Sunde 2011, WHO et al. 2013); it is therefore obvious that achieving development goal calls for improving health status of a nation's population, however it is obvious that there are a number of challenges in attaining good health (Ratzan et al. 2000, Byrne 2004, Mamdani and Bangser 2004, Sanders and Chopra 2006; Kaseje 2006, Association of Chartered Certified Accountants 2013). Incognizant of that, most countries (developing countries inclusive) have taken initiatives to place health higher on their national agenda than ever before.

Health Literacy (HL) is one of the very key challenges towards attaining good health (Paasche-Orlow & Wolf 2007), though seems a new concept, it stands at the top of public health agenda (Squiers et al. 2012) as it is one of the very key challenges towards attaining good health. HL is an important predictor of health outcomes and health care utilization (WHO 2009, U.S. Department of Health and Human Services 2011, Berkman et al. 2010, Ratzan & Parker 2000, TARSC 2009, DeWalt et al. 2004, Berkman et al. 2004, Sudore et al. 2006). It is apparent that at the core of HL is an attempt to improve people's access to health information and their capacity to use it effectively, HL is then critical to empowerment. HL affects a person's ability to access and use health care, to interact with providers, and to care for himself or herself (Paasche-Orlow & Wolf 2007, AHRQ 2007). It is apparent that limited HL impacts on health, health outcomes, health care costs and health care utilization (Weiss et al. 1992, Parker et al. 1995, Gazmararian et al. 2003, Berkman et al. 2004, Nielsen-Bohlman et al. 2004, Weiss and Palmer 2004, Weiss et al. 2005).

Though the concept of HL and what it promotes are very crucial, most of nations' health data sets have not been able to capture and assimilate this aspect nor integrate it in their health policies and programmes, so there is a need to promote this concept. This paper discusses the concept of health literacy and its theoretical approaches (The What), its importance (The Why) and how it can be measured (The How) by reviewing various scholarly articles on the concept.

## 2. Health literacy: an overview

HL is somewhat a new concept in health promotion describing a range of outcomes to health education and communication activities (Nutbeam 2000). HL is a term introduced in the 1970s (Simonds 1974) and of increasing importance in public health and healthcare. HL has recently gained importance on the European health agenda. The concept of 'health literacy' was originally used in the United States and Canada, however, it is now being used internationally, not only in health care, but also within the public health context (European Commission 2007, Kickbusch & Maag 2008, Pleasant & Kuruvilla 2008, World Health Organization 2012, Kickbusch et al. 2013).

HL concerns with the capacities of people to meet the complex demands of health in modern society. Developing HL among people has been thought to be very important across the world due to clear association between low health literacy and poor health outcomes (DeWalt et al. 2004, Berkman et al. 2004, Sudore et al. 2006, Berkman et al. 2010, U.S. Department of Health and Human Services 2011, Kambarage et al. n.d.), and the potential to reduce these outcomes. Consequently, several national and international organizations have promoted health literacy as a research priority (IOM 2004, AHRQ 2007, WHO 2009).

In spite of the growing attention on the concept of health literacy among European health policymakers, researchers and practitioners; information about the status of health literacy in Europe and globally is still scarce (Sørensen et al. 2015). The situation is even worse in most of the developing countries where very little has been researched and also documented on HL despite the importance of health information which partly forms HL and the fact that Health Information being listed among priorities under most of these countries' National Health Research Priorities. This however does not point out to the fact that the place and relevance of HL is not recognized by health policymakers, researchers and practitioners in developing part of the world.

## 3. Theoretical Approaches to HL

There are multiple theories that explain HL, however for the purposes of this paper only the major theories are presented here. Inherent in these assumptions is the belief that HL is influenced not just by cognitive, individualistic characteristics, but by the cumulative impact of social, economic, and environmental factors (Nutbeam 2000, Anderson 1999, Stokols 2000, McLeroy 1988, Janz et al. 2002).

### 3.1. Health belief model

The Health Belief Model (HBM) is an intrapersonal (within the individual, knowledge and beliefs) theory used in health promotion to design intervention and prevention programs (Burke n.d). The focus of the HBM is to assess health behavior of individuals through examination of perceptions and attitudes someone may have towards disease and negative outcomes of certain actions (Bandura 1986). The HBM assumes that behavioral change occurs with the existence of three ideas at the same time: (Burke n.d: pp1)

- i). An individual recognizes that there is enough reason to make a health concern relevant (perceived susceptibility and severity);
- ii). That a person understands he or she may be vulnerable to a disease or negative health outcome (perceived threat); and
- iii). An individual must realize that behaviour change can be beneficial and the benefits of that change will outweigh any costs of doing so (perceived benefits and barriers).

It is obvious that aspects of obtaining, processing, understanding and communicating the basic health information are influential to perceived susceptibility and severity. This is to say that our perceptions are likely to be influenced by our knowledge which re-

sults out of the kind of information received on diseases or risks. These elements are critical when elucidating HL.

### 3.2. Social cognitive theory (social learning theory)

Social learning theory addresses both the underlying determinants of health behaviour and methods of promoting change. It is an expectancy value theory that focuses on the interaction between the individual and the environment, particularly how the 'reinforcers' in the environment can shape an individual's behaviour. Social learning theory emphasizes the influence of other people on individual's behaviours, observational learning and the role of self-efficacy (see Azjen & Fishbein 1980, Nutbeam et al. 2010).

This theory is very important in connection with issues related to HL in the sense that the interaction between an individual and the environment is an avenue out of which one can get informed, learn and understand certain aspects on diseases and health in general. This interaction where one can be informed, learn and understand certain aspects can result into influencing our decisions on our health.

### 3.3. Theory of planned behavior

Theory of Planned Behaviour is having its emphasis on decisional balance or pros or cons of performing behaviour (Green & Kreuter 1991). It is obvious to a certain extent this is likely to result out of how an individual is informed and s/he understands that particular information hence performance of certain behaviours. These issues are premised in the HL.

### 3.4. Behavioural economics and choice architecture

Behavioural economics is a way of understanding how people make choices (National Social Marketing Centre 2011). It moves beyond traditional or 'neoclassical' economics, which assumes that people make decisions in a logical way. The approach recognizes that people don't always behave rationally, with behaviour often being governed by instinct, emotion, past events and the people around them. Many 'problem' behaviours – such as eating unhealthy food, or smoking or drinking too much alcohol – are testament to this irrational decision-making. Understanding this can help design behavioural interventions that affect positively the ways in which decisions are made. Relatively simple changes can be made to the external environment that can prompt behaviour change. HL underpins these issues embedded in the Behavioural Economics and Choice Architecture.

## 4. Methods

A documentary review (documentary research method) was used in collecting relevant information in this study on Health Literacy. The documentary method is described as the technique used to categorize, investigate, and interpret written documents whether in the private or public domain; it is the analysis of documents that contain information about the phenomenon under a study (Scott 1990, Bailey 1994, Mogalakwe 2006). This method is superior and sometimes even more cost effective than social surveys, in-depth interviews or participant observation. Document analysis is a social research method which is used as a tool for obtaining relevant documentary evidence to support and validate facts stated in a research, especially during the chapter of literature review (Bowen 2009).

Handling documentary sources is not different from other areas of social research based on quality control criteria including, authenticity, credibility, representativeness and meaning. Authenticity refers to whether the evidence is genuine and from implacable source; credibility refers to whether the evidence is typical of its kind; representativeness refers to whether the documents consulted are representative of the totality of the relevant documents, and meaning refers to whether the evidence is clear and comprehensi-

ble. Authenticity, credibility, representativeness and meaning criteria should not be regarded as distinct phases in assessing the quality of documentary sources. They should not be applied in a rigid and formalistic way as well, the criteria should rather be seen as all interdependent and the researcher cannot adequately use one criterion to the exclusion of others (Scott 1990).

A number of databases were used in the search for relevant academic published articles including Cinahl, EMBASE, ISI Web of Science, IBSS, JSTOR, MedLine, Psycinfo, Psycindex and Cochrane, Scopus, PubMed, and Web of Knowledge. Articles for the review were drawn from peer-reviewed journals, conference papers, consumer studies, health professional studies, research by recognized independent institutions as well as systematic and narrative reviews on the topic. The literature review included literature published from 1970 to 2015 due to the fact that the concept was developed around 1970s, hence excluded publications made before 1970s and also excluded non-English language publications due to language barriers.

The literature searched identified a total of 2,132 references related to a set of specified search terms under the what, why and how of HL. The terms used for search purposes included, 'health literacy, definition of health literacy, meaning of health literacy, history of health literacy, origin of health literacy, importance of health literacy, the rationale of health literacy, purposes of health literacy and measurement of health literacy. Of the 2,132 articles and published abstracts retrieved, only 60 met inclusion criteria. A systematic literature review was performed to identify definitions, rationale and common approaches towards measuring health literacy.

## 5. Results

### 5.1. Origin and evolution of HL

This review offers evidence of the evolution of the concept, a process, an outcome and a public health goal of HL, its measurement and application. It is evident that since the introduction of the concept of health literacy by Simonds, the concept has evolved from a basic description of the ability to perform health related tasks that require reading and computational skills, to cover cognitive capacities related to obtaining, processing, and understanding health information, leading up to decision making (Simonds 1974, Williams et al. 1995, Nutbeam 2000, Andrus et al. 2002, Kutner et al. 2006, Edwards et al. 2012).

It can be noted that there has been; (i) extension of the definition beyond a cognitive explanation hence focusing also on social skills that are considered essential for interaction with others and society (e.g. skills such as in communication, negotiation and organization) plus focusing on motivation that made HL be viewed as an action oriented concept rather than simply an intellectual capacity (Nutbeam 2000), (ii) other scholars (see for example Zarcadoolas et al. 2003) have contributed to the evolution of the concept of HL to reflect the contexts in which HL is considered to be important i.e. outcomes of health literacy which are to "make informed choices, reduce health risks and improve quality of life", (iii) scholars such as Zarcadoolas et al. (2003) and Kwan et al. (2006) have described HL as a 'generative' concept that develops over a lifetime. Nutbeam (2008) describes two models of HL: the risk model which put emphasis on the importance of communication and health service organization which is customized to the needs of low literate individuals, and the asset model where HL is described as an asset to be developed, and seen as an outcome of health education and communication.

### 5.2. Health literacy: what is it?

Health literacy is looked at in various ways. It can be seen as an emerging concept, a process, an outcome and increasingly, a public health goal. There are multiple definitions of HL (IOM 2004, WHO 2009, Pleasant & McKinney 2011), this is due to the fact,

HL involves both the context (and setting) in which health literacy demands are made (e.g., health care, media, internet or fitness facility) and the skills that people bring to that situation (Rudd et al. 1999).

Health literacy, as defined by the Institute of Medicine (IOM 2004, Kickbusch et al. 2005, Ministry of Health-Australia 2010, Sun et al. 2013), is the degree to which individuals can obtain, process, and understand the basic health information and services they need to make informed and appropriate health decisions. This capacity includes the ability to interpret documents, read and write prose (print literacy), use quantitative information (numeracy), and speak and listen effectively (oral literacy) in a health care setting. Health literacy is the ability to obtain, read, understand and use healthcare information to make appropriate health decisions and follow instructions for treatment.

The World Health Organization (WHO 2009) has defined HL as 'the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information, in ways which promote and maintain good health'. This approach also recognizes the issues of power and how power relations affect access to information and its use. Health literacy is commonly defined as an individual's ability to gain access to, understand and use health information for promoting and maintaining health (Nutbeam 2000, Canadian Council on Learning 2008). It can be examined by the degree to which individuals and communities have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions (IOM 2004). It describes the achievement of a level of knowledge, personal skills and confidence to take action to improve personal and community health by changing personal lifestyles and living conditions. Skills in social organization and advocacy are also an integral component of health literacy (Nutbeam 2000).

Health literacy is linked to literacy and entails people's knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course (Sorensen 2012, pp7). Health literacy is the degree to which individuals have the capacity to obtain, communicate, process, and understand health information and services needed to make appropriate health decisions, plus the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health (Ratzan & Parker 2000, TARSC 2009, WHO 2009, U.S. Department of Health and Human Services 2011, Berkman et al. 2010).

At the core of all these definitions and explanations on HL, it is clear that the issues are (i) the capacity to obtain, process, understand and communicate the basic health information and services they need to make appropriate health decisions, (ii) plus the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health.

### 5.3. Determinants of HL

Though the society in which we live in today is rich in information, it is not surprising that many people do not have the skills to be health literate in all situations due to impediments by an almost endless list of barriers, circumstances and information-processing demands. Eliminating these obstacles and improving the way health services and public health professionals, educators, the media and others communicate health information would offer the best opportunity to achieve a health literate society (Nielsen-Bohlman, et al. 2004). HL is dependent on individual and systemic factors, including; communication skills of lay persons and professionals i.e. reading level, numeracy level, language barriers, cultural appropriateness, format and style, sentence structure, use of illustrations, interactivity of intervention, and numerous

other factors that affect how easily health information is understood and followed.

Various investigators have elucidated the relationship between limited HL and socioeconomic indicators, health behaviours, and health outcomes (Sayah & Williams 2012, Edwards et al. 2012). Paasche-Orlow & Wolf (2007) claim that HL is affected by socio-demographic and economic characteristics (including level of education reached, ethnicity, age, occupation and income) as well as cognitive and physical abilities; HL is among the determinants of health outcomes. As a determinant, HL affects a person's ability to access and use health care, to interact with providers, and to care for oneself.

According to the Department of Health and Human Services (US), Office of Disease Prevention and Health Promotion (n.d) ideas about health and behaviours are shaped by the communication, information, and technology that people interact with every day. Health communication and health information technology are central to health care, public health, and the way our society views health. These processes make up the context and the ways professionals and the public search for, understand, and use health information, significantly impacting their health decisions and actions.

Put it simply, there are many determinants of HL, but do not exclude socio-demographic and economic characteristics, information, technological and communication systems; all affecting how health-related information is accessed, obtained, processed, understood and utilized to maintain good health.

#### 5.4. Purposes, Importance and Rationale of HL

Several initiatives and studies have raised awareness of the importance of HL to health, increased uptake of healthy behaviors and health care and have drawn attention to the need for measures of HL (see for example AHRQ 2007, URT-GHI 2011) based on evidence that there is a relationship between health literacy and health outcomes.

Health literacy is critical to individuals' capacity to manage their health. It refers not only to the abilities of individuals but also to health-related systems and providers of information within those systems. Increasingly, health literacy is recognized as a determinant of health—one that is closely related to other social determinants of health such as literacy, education, income, and culture.

To be health literate is to be able to access and understand the information required to manage one's health on a day-to-day basis. Ideally, a health-literate individual is able to seek and assess the health information required to: (i) understand and carry out instructions for self-care, including the administering of complex daily medical regimens, (ii) plan and achieve the lifestyle adjustments required for improved health, (iii) make informed positive health-related decisions, (iv) know how and when to access health care when necessary, (v) share health promoting activities with others, and, (vi) address health issues in the community and society.

It is clear that chronic ill-health is the leading cause of death globally, with more of all deaths attributable to one of five chronic diseases—cancer, heart disease, diabetes, kidney disease and respiratory disease—the positive health and lifestyle implications for improved health literacy are potentially far-reaching. For example in some developed countries the status of health literacy falls short of the ideal with the situation becoming much worse in the developing side of this world, hence impacting negatively on the skills required to obtain, understand and act on health information and services which affects the ability to make appropriate health decisions, lack of ability to effectively self-manage health, access health services, understand available and relevant information (Eichler et al. 2009).

Apart from having a negative impact on health and quality of life, low health literacy also exacts a significant financial toll. In 2009 low health literacy in Canada cost an estimated 3 to 5% of the total health care budget for that year. This amounted to approxi-

mately \$8 billion a year in excess health care costs due to low health literacy (Eichler et al. 2009).

Developing health literacy among people has been thought to be very important across the world due to clear association between low HL and poor health outcomes (DeWalt et al. 2004, Berkman et al. 2004, Sudore et al. 2006, Berkman et al. 2010, U.S. Department of Health and Human Services 2011, Kambhage et al. n.d.), and the potential to reduce these outcomes, several national and international organizations have promoted health literacy as a research priority (IOM 2004, AHRQ 2007, WHO 2009). This is due to the fact that HL impacts health, health outcomes and health care utilization. As it is an important predictor of health outcomes and health care utilization (Berkman et al. 2010, U.S. Department of Health and Human Services 2011). Limited HL can cause some adverse effects for individuals and society (Sun et al. 2013). Low health literacy is associated with a variety of adverse health outcomes, including increased mortality, hospitalization, and in some cases poorer control of chronic health conditions (Dewalt et al. 2004, Nielsen-Bohman & Kindig 2004, Pignone et al. 2005, Wolf et al. 2010, Kripalani et al. 2010). Furthermore, limited HL impacts on the prevention and screening of diseases, health behaviour, the taking of patients' history and the interpretation of diagnoses (Davis et al. 2002, Schwartzberg & Wang 2005, Miller et al. 2007, Pappas et al. 2007, Nutbeam 2008). Knowing little about preventive care, people with low health literacy tend to use more medicines and more expensive healthcare services, including hospitalization and emergency services (Yi et al. 2008, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention 2009).

Low HL in people with chronic health conditions leads to more ignorance about their disease conditions compared to those with higher health literacy (Baker et al. 2002, Lindau et al. 2002), more misconceptions about the disease and its management (van Servellen et al. 2003). It has been noted that adults with limited HL have less knowledge of disease management, report poorer health status, and are less likely to seek preventive care. By some accounts, low health literacy costs the U.S. health care industry \$73 billion a year in misdirected or misunderstood health care services (Vernon et al. 2009, Friedland 1998, Howard, 2005). The reasoning follows, *pari passu*, that those individuals who acquire the skill set necessary to improve their health literacy will be able to successfully navigate the complex health care maze leading to healthy and productive lives (Weiss 1992, Williams 1998). Health literacy skills are needed for dialogue and discussion, reading health information, interpreting charts, making decisions about participating in research studies, using medical tools for personal or family health care—such as a peak flow meter or thermometer—calculating timing or dosage of medicine, or voting on health or environment issues (Institute of Medicine 2004).

In short, the purpose and importance of HL cannot be overemphasized. It transcends beyond mere acquisition of necessary health information to deeper understanding and application of health management and treatment techniques, risk prevention and management, and health care.

#### 5.5. Assessment and measurement of HL

Despite changes in the way HL has been conceptualized, the current body of HL research has been mostly based on cross-sectional studies using measurements informed by earlier definitions of HL as a cognitive capacity (Edwards et al. 2012). A wide range of measurement instruments have been developed that allow categorization of individuals as having low, average, or high levels of HL (Parker et al. 1995, Davis et al. 1998, Gazmararian 1999, Baker et al. 1999). HL measurements have helped identify a relationship between poor HL and adverse health outcomes (Williams et al. 1998, Tang et al. 2008), limited involvement in health care consultations and decision-making processes (Manning & Dicken 2006, Kim et al. 2001), more emergency department use (Acheson 1998) and more hospital admissions (Baker et al. 1998, 2002). It is obvi-

ous that the assessment and measurements have also been observed to evolve.

The most commonly used measures used to investigate the relationship between HL and health outcomes are the Test of Functional Health Literacy in Adults (TOFHLA) (Parker et al. 1995), which focuses on reading comprehension, and the Rapid Estimate of Adult Learning in Medicine (REALM) (Davis et al. 1993), which focuses on reading ability. Health literacy measures have been shortened for quicker use. For example, S-TOFHLA was later developed to include four numeracy items and two prose passages (Baker et al. 1999). A shorter version of the REALM (REALM-R) is also available [Bass et al. 2003]. Extended measures also exist, for example, the Health Activities Literacy Scale (HALS) which was developed in the US by the Educational Testing Service has been specifically designed to assess activities that are not necessarily confined to traditional healthcare settings such as doctors' surgeries, hospitals and clinics, but those that take place in the home, at work or in the community. The HALS does take in more health contexts than other measures, but with 191 questions taking up to an hour to complete it may be too time consuming to use in most research. Hence, TOFHLA and the REALM (and their shortened versions) are the currently the most frequently used measures.

In 2003, the US Department of Education conducted a survey entitled "National Assessment of Adult Literacy" (NAAL), the NAAL surveyed more than 19,000 adults aged 16 and older. The assessment included items intended to directly measure HL. More than one-third of respondents (36%) scored in the lowest two categories ("basic" and "below basic"), suggesting that approximately 80 million adults in the United States have limited HL (Kutner et al. 2006). These people may have difficulty with even simple tasks like reading and understanding the instructions on a prescription bottle or filling out an insurance form. Low HL skills are more common in certain subgroups, including minorities, the elderly, Medicaid recipients, and people who have not completed high school (AHRQ 2010). A HL scale was used in this study (Kutner et al. 2006).

A study by Sun et al. (2013) was conducted to develop and validate a HL model at an individual level that could best explain the determinants of HL and the associations between HL and health behaviours even health status regarding infectious respiratory diseases. Skill-based HL test and a self-administrated questionnaire survey were conducted among 3,222 Chinese adult residents. Path analysis was applied to validate the model. The model explained 38.6% of variance for HL, 11.7% for health behaviour and 2.3% for health status: (GFI = 0.9990; RMR = 0.0521;  $\chi^2 = 10.2151$ ,  $P = 0.1159$ ). Education has positive and direct effect on prior knowledge ( $\beta = 0.324$ ) and HL ( $\beta = 0.346$ ). HL is also affected by prior knowledge ( $\beta = 0.245$ ) and age ( $\beta = -0.361$ ). HL is a direct influencing factor of health behaviour ( $\beta = 0.101$ ). The most important factor of health status is age ( $\beta = 0.107$ ). Health behaviour and health status have a positive interaction effect.

The European HL Survey (HLS-EU 2012, pp 4) was conducted during the summer of 2011 across eight European countries (Austria, Bulgaria, Germany (North Rhine-Westphalia), Greece, Ireland, Netherlands, Poland, and Spain). In each country, a random sample of approximately 1,000 EU-citizens, 15 years and older was interviewed yielding a total sample of approximately 8,000 respondents. Data were collected via a standardized questionnaire, using a Computer Assisted Personal Interviewing (CAPI) mode in all countries except for Bulgaria and Ireland, where Paper Assisted Personal Interview (PAPI) was used. To measure HL, the instrument labelled HLS-EU-Q was derived from the conceptual model and definition developed by the HLS-EU consortium (Sorensen, 2012). The conceptual model integrates three health relevant areas (health care, disease prevention, health promotion) and four information processing stages (access, understand, appraise, apply) related to health relevant decision-making and tasks. These areas and stages combined to create a matrix measuring HL (HL) with 12 sub-dimensions, which were operationalized by 47 items assessed using a 4-point self-report scale (very easy, easy, difficult,

very difficult) on perceived difficulty of selected health relevant tasks. The matrix in Table 1 provides details on the sub-dimensions of HL based on the HLS-EU Conceptual Model used for questionnaire construction during the survey.

**Table 1:** Matrix of Sub-Dimensions of Health Literacy Based On the HLS-EU Conceptual Model, Used for Questionnaire Construction

Health Literacy	Access/obtain information relevant to health	Understand information relevant to health	Appraise/judge/evaluate information relevant to health	Apply / use information relevant to health
Health Care	1) Ability to access information on medical or clinical issues	2) Ability to understand medical information and derive meaning 6) Ability to understand information on risk factors and derive meaning 10) Ability to understand health related information and derive meaning	3) Ability to interpret and evaluate medical information 7) Ability to interpret and evaluate information on risk factors 11) Ability to interpret and evaluate information on health related issues	4) Ability to make informed decisions on medical issues 8) Ability to judge the relevance of the information on risk factors 12) Ability to form a reflected opinion on health issues
Disease Prevention	5) Ability to access information on risk factors			
Health Promotion	9) Ability to update oneself on health issues			

Sorensen et al. (2012)

In a nut shell, assessing and measuring HL has also evolved, but generally involves categorizing the degree of HL into low, average and high levels. In so doing paper-based or computer-driven approaches can be utilized. These techniques help assess reading comprehension and reading ability on health-related matters.

## 6. Conclusion

Improving health and wellbeing will be difficult if we don't improve the ways in which we communicate about health. Health literacy is a resource for daily living that occurs across the life-span in the course of being at home, at work, in school, in the marketplace, in the health system and in society as a whole. Enhancing HL remains a life time goal to be accomplished to anyone who wishes well to his/her health, as it is apparent that there is a clear connection between HL and health outcomes. There is a great need to have this particular concept and or process be promoted taking into consideration the purposes, importance and rationale of it. It is therefore imperative that various stakeholders and policy-makers take lead to promote this concept: The What, Why and How of Health Literacy.

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