Health literacy and health inequalities: Summary Overview

March 2014

Contents

Executive Summary

This report was commissioned by NHS Education for Scotland, supported by literature searching by Health Scotland.

The Scottish Government's National Health Literacy Action Plan (2014) "explains that low health literacy leads to poor health outcomes and widens health inequality". However, whilst it is generally accepted that individuals with low health literacy have poorer health outcomes and poorer use of health services (Berkham et al 2011[1]), the role that health inequalities plays in this relationship remains poorly understood.

The purpose of this current review is to consider the relationships between health literacy and health inequalities. It concluded that:

- Inequalities are caused by a fundamental inequity in the distribution of power, money and resources. This has an impact on the opportunities for good-quality work, education and housing, etc. In turn, these determinants shape individual experiences and health throughout life.
- Health literacy and functional literacy are very closely related and the terms 'literacy,' 'health literacy' and 'functional health literacy' are often used interchangeably in research literature. Functional literacy has been defined as "the ability to read, write and speak in English, and to use mathematics at a level necessary to function at work and in society in general"). In many definitions of health literacy, there is no clear difference between functional literacy and health literacy except that health literacy is associated with the healthcare environment.
- Whilst it is generally accepted that individuals with limited health literacy have poorer health outcomes and poorer use of health services, the relationship between literacy (functional and health literacy) and health inequalities is unclear.
- Health literacy is correlated with age, employment status, social status, financial deprivation and education. Limited health literacy follows a social gradient and can further reinforce existing inequalities. People with limited health literacy most often have lower levels of education, are older adults, are migrants and depend on various forms of public transfer payments.
- Strengthening health literacy can help to address health inequalities because:
    - Health literacy is an asset for individuals and communities.
    - Health literacy is an important form of social capital.
    - Health literacy means empowerment.

1 Introduction

Health literacy is increasingly being recognised as a significant public health concern, but the term health literacy has been a source of considerable confusion and debate (Baker 2006[2]). Health literacy has been defined in many different ways since it was first introduced as a term and concept. The European Health Literacy Consortium for the European Health Literacy Survey[3] developed the following working definition and conceptual model of health literacy:

> *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 judgements and take decisions in every- day life concerning health care, disease prevention and health promotion to maintain or improve quality of life during the life course*[4].

In May 2014, the Scottish Government published *Making it Easy: A Health Literacy Action Plan for Scotland*[5]. This focuses on improving the healthcare system and workforce capacity and capability to make it easy for people to access and use information about health and wellbeing, rather than seeing health literacy as a gap that needs to be addressed in patient/service user capabilities. The Action Plan:

- Highlights the hidden problem of low health literacy and the impact that this has on our ability to access, understand, engage and participate in our health and social care.
- Calls for all of us involved in health and social care to systematically address health literacy as a priority in our efforts to improve health and reduce health inequalities.

- Sets out an ambition for all of us in Scotland to have the confidence, knowledge, understanding and skills we need to live well, with any health condition we have.
- Lays out the actions the Scottish Government and partners are taking to help all of us in health and social care collaborate and help realise this ambition.

The National Action Plan also "explains that low health literacy leads to poor health outcomes and widens health inequality". However, whilst it is generally accepted that individuals with low health literacy have poorer health outcomes and poorer use of health services (Berkham et al 2011[6]), the role that health inequalities plays in this relationship remains poorly understood. The purpose of this current review is to consider the relationships between health literacy and health inequalities.

2 What are health inequalities, and why do they exist?

Health inequalities are avoidable inequalities in health between groups of people. Health inequalities are the 'systematic differences in the health of people occupying unequal positions in society' (Graham, 2009[7]). They are most commonly associated with socio-economic inequalities but can also result from discrimination. Health inequalities in Scotland are wide and increasing. An Audit Scotland report, *Health inequalities in Scotland* (2012)[8] says that while overall health has improved in the past 50 years, deep-seated inequalities remain. The social determinants of health are the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics. Deprivation is the key determinant, although age, gender and ethnicity are also factors.

NHS Health Scotland recent policy review of health inequalities (2013[9]) concluded that:

> *"Inequalities are caused by a fundamental inequity in the distribution of power, money and resources. This has an impact on the opportunities for good-quality work, education and housing, etc. In turn, these determinants shape individual experiences and health throughout life". (p1)*

The key messages from the review include:

- Average life expectancy in Scotland has improved steadily, but more slowly than in other wealthy countries. Within Scotland, those at the top of the social scale have been able to take health improvement messages on board which has resulted in health benefits for them. However, less affluent groups have benefited less and have been left behind. Inequalities in mortality in Scotland are among the highest in Western and Central Europe, rising rapidly during the 1980s and 1990s; this situation is not inevitable and can be improved.
- The scale of the health inequalities problem is strongly influenced by the magnitude of the underlying inequalities in power, money and resources within a society. Action on the worsening trends in health inequalities needs to be rebalanced to address the fundamental drivers of social inequality which determine income, employment, education and daily living conditions.
- The ways in which health inequalities are manifested in the population, through specific diseases and causes of death, are likely to change over time; strategies focused on specific diseases and

single risk factors are important but will not substantially impact on the overall inequalities in death rates.

2.1 Financial income, employment and wealth

Various longitudinal studies have established a relationship between greater income/wealth and better health (Commission on Social Determinants of Health 2008[10]; Davey-Smith et al 1998[11]). Despite this strong relationship, it does not follow that those societies with the greatest wealth have the best health outcomes (NHS Health Scotland 2013[12]). Whilst increasing income within poor countries improves health, a further increase in income within rich countries does not. On this basis it has been suggested that income inequality, rather than average income, better predicts average population health (Wilkinson & Pickett 2009[13]). There is good evidence on the links between unemployment and health. A recent US-based systematic review summarised that, on average, mortality rates in the unemployed increased by 63% compared to those in continuing employment (Roelfs et al 2011[14]). Individual income and wealth is also likely to be linked to health outcomes, through factors such as perceived security and personal assets. Being more certain about how things will be paid for in the future, job satisfaction, self-worth, sense of identity, and access to social networks and connectedness to community life may all be mechanisms linking income to health inequalities (Davey-Smith et al 1998[15]; Roelfs et al 2011)[16]

2.2 Environmental and individual factors

It has been suggested that there are a number of wider environmental factors that influence health inequalities as well, including availability and quality of schools, air and housing quality, safety of neighbourhoods, availability and accessibility of services, and community engagement (NHS Health Scotland 2013[17]; Marmot et al 2010[18]). In turn, these factors are influenced by individual factors, such as job security and control, fuel poverty, diet, activity levels and tobacco consumption, early cognitive development, literacy and numeracy, qualifications, quality of services received, social supports, and coping and resilience (NHS Health Scotland 2013[19]).

UK-based researchers have conducted a meta-review (a review of reviews) of psychosocial factors that may relate to health inequalities (Egan et al 2008[20]). They define 'psychosocial' factors as including support from social networks, control at work or in the home, security and autonomy, and work-family conflict. They concluded that positive psychosocial environments go hand in hand with better health, and that poor psychosocial environments may be health damaging and contribute to health inequalities. However, the researchers also point out that the available research evidence is of variable quality and consistency, and that future research should seek to improve this.

Health inequalities do not arise by chance, and they cannot be attributed simply to genetic make-up, 'bad' unhealthy behaviour, or difficulties in access to medical care, even though those factors are important. Social and economic differences in health status reflect, and are caused by, social and economic inequalities in society, which are largely beyond the control of individuals and families (Marmot et al 2010[21]; NHS Health Scotland 2013[22]). The consequences for children who are born and grow up in environments that increase health inequalities become apparent early on, and often

remain over the life course (NHS Health Scotland 2013[23]). This suggestion is echoed in a recent UK-based systematic review, which concluded that risk of death from all causes is higher amongst those who experience poorer socioeconomic circumstances during childhood, a pattern which appeared similar for women and men (Galobardes et al 2008[24]).

2.3 The Glasgow effect

Inequalities in health are clearly apparent in Scotland. In 2009/10, for example, life expectancy at birth for men was 69 years for the most deprived 10th of the population compared to 82 years for the least deprived 10th, a difference of 13 years. The difference in *healthy* life expectancy was even greater, at 47 years for men in the most deprived 10th compared to 70 years for those in the least deprived 10th, a difference of 23 years (NHS Health Scotland 2013[25]). The Glasgow effect refers to the unexplained poor health and low life expectancy of Glaswegians compared to the rest of the United Kingdom and Europe. It has been suggested that poverty alone does not explain these stark health inequalities, as equally deprived former industrial cities of the UK such as Birmingham, Liverpool and Manchester that have faced similar effects of de-industrialisation have higher life expectancies, and the wealthiest ten percent of the Glasgow population have a lower life expectancy than the same group in other cities (Walsh et al 2010[26]). Various suggestions have been proposed to account for the effect, which appears to have widened since the 1970s, including vitamin D deficiency, cold winters, higher levels of poverty than the figures suggest, high levels of stress, and a culture of alienation (Reid 2008[27]).

3 Functional literacy and health literacy

Health literacy and functional literacy are very closely related (Public Health Wales 2010[28]), and the terms 'literacy,' 'health literacy' and 'functional health literacy' are often used interchangeably in research literature. Functional literacy has been defined as "the ability to read, write and speak in English, and to use mathematics at a level necessary to function at work and in society in general" (Easton et al 2010[29]). In many definitions of health literacy, there is no clear difference between functional literacy and health literacy except that health literacy is associated with the healthcare environment (Easton 2011[30]).

Most research that examines the relationship between functional literacy and health literacy involves people who have cognitive difficulties or who do not speak the dominant language of their society. However, there are many other people that can talk readily about health and other issues but have problems using written information. A recent Scottish systematic review has suggested that there is evidence of this 'hidden population', whose functional or health literacy problems have different implications because they are less likely to be recognised and addressed (Easton et al 2010[31]).

A recent UK-based systematic review (Easton et al 2010[32]) concluded there is some evidence that lower functional or health literacy is associated with poorer health status, both when assessed by self-report and when measured objectively. It also found no evidence of a clear relationship between functional literacy, or health literacy, and preventive health or health risk behaviours. In

relation to health service use, people with higher and lower levels of literacy had similar levels of access to services, but people with lower literacy had less appropriate patterns of use and weren't always able to secure appropriate treatment. UK and US-based systematic reviews (Easton et al 2010[33]; Berkham et al 2011[34]) have also concluded that individuals with limited health literacy have poorer adherence to medicine, and higher hospitalisation rates. Berkham et al 2011[35] also concluded that poor health literacy is related to greater use of emergency care, lower mammography screening rates, flu vaccine uptake, poorer ability to interpret labels and health messages, and, among elderly people, poorer overall health status and mortality rates. Collectively, these findings suggest that people with poorer health literacy skills may be less likely to adopt effective health promoting or self-care behaviour. However, there is an ongoing debate about how limited functional literacy affects people's health in relation to how limited health literacy affects people's health (WHO 2013[36]); and although the European Health Literacy Survey (2012[37]) confirms a social gradient for education, by showing that health literacy is significantly higher among people with more education in all participating countries, this differs somewhat between countries.

Capacity and competence related to health literacy vary according to context, culture and setting. They depend on individual and system factors. These factors include communication skills, knowledge of health topics, culture and the specific characteristics of the health care, public health and other relevant systems and settings where people obtain and use health information. When these services or systems, for example, require knowledge or a language level that is too high for the user, health suffers.

4 Health literacy and social inequalities

People are not defined by any singular characteristic. Social determinants such as ethnicity, gender, disability, and sexual orientation combine and intersect to affect health and wellbeing, often varying across the life-course. The UK Equality Act 2010[38] provides protection from discrimination in relation to protected characteristics; and whilst the research on health literacy does not cover all of these characteristics, our review covered health literacy in relation to age, disability, and race and ethnicity.

4.1.1 Older people

A recent US-based systematic review (Zamora & Clingerman 2011[39]) indicated that low levels of health literacy are more common among adults aged 65 and older than for any other adult age group. The review indicated that older adults and their caregivers need reliable health information to help prevent and manage disease, promote their health and follow public health recommendations and warnings. However, differences in access to formal education and literacy training, the complexity and technical nature of health information, and the natural processes of aging may compromise older adults' capacity to use health information and make sense of messages. Furthermore, Gellard et al (2011[40]) found that limited health literacy may be a barrier to adults aged 65 and older obtaining and adhering to medicines. They concluded that health care staff need to better understand how cognitive functioning, and changes in vision and hearing, impact on health literacy levels in older adults.

4.1.2 Children and young people

US-based systematic reviews have suggested that low parental/caregiver literacy is related to poorer child health outcomes (DeWalt & Hink (2009[41]; Saunders et al 2009[42]). Adults with limited literacy skills are more likely to make errors in dosing child medication (Saunders et al 2009[43]). Negative health outcomes for children with asthma and type 1 diabetes have been related with caregivers with limited functional literacy skills, but these relationships are not consistent across studies. The strongest relationships between health literacy and child health outcomes are in care of newborn infants and care of children with special health care needs (Saunders et al 2009[44]): for families with limited health literacy skills, complex health information can make it much more difficult to access child health care; increase threats to child safety; and challenge effective management of special health care needs. Better definitions and measures of health literacy in child health are required, along with additional research and more joined up working between health, social care and education professionals in order to address these problems in the future (Saunders et al 2009[45]; Ormshaw et al 2013[46]).

4.1.3 People with long-term medical conditions

Health literacy plays a crucial role in enabling people to manage chronic diseases such as diabetes and heart disease themselves. People with limited health literacy have more difficulty in managing long-term conditions on a daily basis, including making lifestyle changes, making informed decisions, and knowing when and how to access health care services (WHO 2013[47]). Health literacy is also an important factor in preventing long-term diseases, as it is associated with health behaviours such as lack of physical activity, poor dietary habits, smoking and alcohol use (WHO 2013[48], and lower cancer screening rates (Oldach & Katz 2014[49]) UK and US-based reviews have found that lower levels of health literacy are common among people with chronic kidney disease (Fraser et al 2013[50]) diabetes (Al Sayah et al 2013[51]; Loke et al 2012[52]; Wang & Salter 2012[53]), chronic musculoskeletal conditions (Loke et al 2012[54]; Lowe et al 2012[55]) and heart disease (Baker et al 2011[56]).

4.1.4 People with mental health problems

The relationship between health literacy and long-term physical conditions has received more attention in the literature than the relationship between health literacy and mental health, also known as mental health literacy (MHL) (Jorm 2012[57]). A mental health literacy (MHL) programme has recently been evaluated (Friedli et al 2012[58]) in Scotland as part of wider Dundee 'Equally Well' test site activities. The evaluation found that the programme was successful in building upon and extending the mental health improvement role of local organisations, building the capacity of workers to address mental health issues in their day to day roles, and in creating more organisations able to deliver mental health awareness training. However, there was limited success in attracting the local community to take part. For those who did participate, sessions were well received and effective in increasing knowledge and understanding of MHL. The evaluators concluded that further work is needed to identify how best to promote MHL with local communities, taking into account the challenges of overcoming the stigma surrounding mental health issues, which may have contributed to reduced participation.

4.1.5 People with learning disabilities

People with learning disabilities have been highlighted by a number of studies as an at risk group for limited health literacy (Public Health Wales 2010[59]). Limited communication skills may reduce their capacity to convey identified health needs effectively to others. As a result, carers play an important role in the identification of health needs for many people with more severe learning disabilities. However, they may have difficulty in recognising expressions of need, particularly if the person concerned has difficulties in oral communication (Emerson & Baines 2010[60]). A range of organisational barriers to accessing healthcare services have been identified for people with learning disabilities, including failure of health professionals to make 'reasonable adjustments' in light of the literacy and communication difficulties experienced by many people with learning disabilities (Emerson & Baines 2010[61]).

4.1.6 People in minority ethnic groups

US-based systematic reviews have concluded that people in ethnic minority groups often have limited health literacy, because they can have difficulties in obtaining, understanding and implementing health information, and therefore have a higher risk of poorer health outcomes (Berkman et al 2011[62]). It has been suggested that African Americans in the US have more limited health literacy than their Caucasian counterparts (Weekes 2012[63]), but there have been relatively few systematic reviews examining the relationships between health literacy and health outcomes in other minority ethnic communities.

Current UK legislation[64] requires all public bodies to offer equal services and opportunities to all members of society and to promote race equality. To meet these requirements all public bodies need to promote equal access to health care services and provide accessible health information in various formats and languages. However, ethnic minority groups, asylum seekers and refugees are less likely to visit their GP and seek treatment, and this is often due to a lack of understanding of the health system and/or lack of information about available services. Studies have also highlighted practitioners' poor understanding of cultural issues due to a gap in the current medical training, which impacts on the assessment and treatment of patients from minority groups (Public Health Wales 2010[65]).

5 A social gradient?

Health inequalities are often observed along a social gradient. This means that the more favourable your social circumstances such as income or education, the better your chance of enjoying good health and a longer life. While there is a significant gap between the wealthy and the poor, the relationship between social circumstances in health is in fact a graded one.

Whilst it is generally accepted that individuals with limited health literacy have poorer health outcomes and poorer use of health services (Berkham et al 2011[66]), the relationship between literacy (functional and health literacy) and health inequalities is unclear. This overview was unable to locate systematic review-level data fitting the search criteria that examines the relationships

between health literacy and health inequalities. Other researchers have had similar experiences, with (Bambra et al (2010[67]) concluding that there are too few systematic reviews conducted in this area. It is also a challenge to locate relevant systematic reviews, as the terminology used to describe health inequalities and health literacy varies greatly from one study to the next (Bambra et al 2010[68]).

The recent European Health Literacy Survey (2012[69]) developed a conceptual model of health literacy seeks to capture the complexity of the concept by developing 12 sub dimensions of health literacy related to competencies of accessing, understanding, appraising and applying health-related information within health care, disease prevention and health promotion settings (see table 1). This model and definition, which integrates medical and public health views of health literacy, was developed through a systematic literature review and content analysis of 17 peer-reviewed definitions and 12 conceptual frameworks found in extensive literature reviews.

Table 1: The European Healthy Literacy Survey: the 12 sub dimensions as defined by the conceptual model

Health literacy	Access or obtain information relevant to health	Understand information relevant to health	Appraise, judge of evaluate information relevant to health	Apply or use information relevant to health
Health care	Ability to access information on medical or clinical issues	Ability to understand medical information and derive meaning	Ability to interpret and evaluate medical information	Ability to make informed decisions on medical issues
Disease prevention	Ability to access information on risk factors	Ability to understand information on risk factors and derive meaning	Ability to interpret and evaluation information on risk factors	Ability to judge the relevance of the information on the risk factors
Health promotion	Ability to update oneself on health issues	Ability to understand health related information and derive meaning	Ability to interpret and evaluate information on health related issues	Ability to form a reflected opinion on health issues

Source: adapted from: Sørensen K et al. Health literacy and public health: a systematic review and integration of definitions and models. BMC Public Health, 2012, 12:80.

The European Health Literacy Survey (2012[70]) found that health literacy is correlated with age, employment status, social status, financial deprivation and education. Limited health literacy follows a social gradient and can further reinforce existing inequalities. People with limited health literacy most often have lower levels of education, are older adults, are migrants and depend on various forms of public transfer payments.

The European Health Literacy Survey (2012[71]) also identified vulnerable groups particularly at risk of limited health literacy:

- 80% of those with no or very little education
- More than 75% of persons with very bad health status

- More than 70% of those who consider themselves as having a low social status
- 60% of persons older than 75
- More than 50% of unemployed or retired people

Income and perceived social class were the only two variables which positively predicted health literacy, and these variables have also been linked to health inequalities (Marmot et al 2010[72])

A recent Japanese study (Furuya et al 2013[73]) looked specifically at health status, socioeconomic status and self-rated health in a total of 1237 participants. This study found that good self-reported health was related to younger age, employment, and higher health literacy scores. Respondents with lower education were more likely to have poorer health literacy. The study suggests that to reduce health inequalities, policy interventions should focus on the promotion of health literacy among deprived socio-demographic groups.

A recent Irish study (Coughlan et al 2013[74]) looked at whether Irish health policy makers should view health literacy as a public health or health inequalities issue. This was done by analysing national survey data and looking at the characteristics of respondents in relation to responses to questions about strategies to improve their general health. The researchers found that participants' motivation for a health-literate health care system came from across the socioeconomic gradient. This analysis suggested that health literacy in Ireland should be viewed predominately as a public health issue rather than a health inequalities issue.

Additional recent Irish (Doyle et al 2012[75]) and Welsh (Public Health Wales 2011[76]) reports have suggested that although health literacy is undoubtedly related to markers of social gradient such as income and education, a direct, linear relationship cannot be assumed, because those with higher incomes and more education are still at risk of limited health literacy. They may, for example, be unable to evaluate competently the vast and sometimes conflicting information needed to manage or improve their health status.

It has been suggested that the health literacy agenda should be focused on 'improving health and reducing inequities by empowering both individuals and communities to make informed and ethical decisions about their health' (Peerson & Saunders 2009[77]; Pleasant & Kuruvilla 2008[78]).

A UK-based strategic review is currently assessing the role of community-based peer support in improving health literacy levels and reducing health inequalities. Initial findings suggest that the role of health inequalities has to be prioritised in policy and funding, and community challenges and needs must be acknowledged (Harris 2013[79]). This review is due to be published in 2015. A second UK-based review (Netto et al 2008[80]) of health promotion interventions involving Pakistanis, Chinese and Indian communities related to cardiovascular disease and cancer prevention and modifiable risk factors has suggested that community involvement in the design and delivery of interventions plays a crucial role in overcoming language barriers, thus ensuring effective communication of health promotion messages. What remains unclear though is the extent to which involvement from representatives of the target community added value to the effectiveness of the intervention due to other factors, for example, due to greater understanding of the norms, values and lifestyles of that community.

The recent WHO (2013[81]) report on health literacy argues strongly that strengthening health literacy helps to address health inequalities:

> *The people who struggle most with limited health literacy are most often older people, members of ethnic minorities, recent immigrants, people with lower levels of education and/or low proficiency in the national language and those who depend on public transfer payments. The implications for these more vulnerable groups are that limited health literacy often correlates with a lack of ability to effectively self-manage health, access health services, understand available and relevant information and make informed health-related decisions. Targeted initiatives can strengthen health literacy among vulnerable groups and can help to address gaps in health inequality. Measures to strengthen health literacy among children are key.* (p15)

The WHO (2013) report draws on (Abel 2008[82]), Abel & Frohlich (2012[83]), Marmot et al (2010[84]) and Mitic & Rootman (2012[85]) to assert that:

1. **Health literacy is an asset for individuals and communities**. Investment in strengthening health literacy is likely to yield a substantial return in health and well-being at both the individual and community levels. People acquire and use personal health literacy based on the social environments in which they live, and social action can improve these environments. Combined with appropriate social resources, health literacy can become an asset that will sup- port people in becoming more resilient (have a sense of adaptation, recovery and bouncing back despite adversity or change) and active for health: for example, by adopting healthier lifestyles or demanding their rights as patients as well as taking action to improve health in the community and contribute to sustainable development.
2. **Health literacy is an important form of social capital**. Communities benefit from the health literacy of their members, and community members benefit from community sup- port and resources – such as self-help groups and neighbourhood support – in enhancing their health literacy. Such characteristics make health literacy a part of people's cultural capital. Cultural capital is linked to health outcomes and people's opportunities to be active for their health. Possessing and applying cultural capital – in the form of knowledge, values, norms and skills – increases peoples' potential to pursue healthy lifestyles and is positively associated with peoples' health.
3. **Health literacy means empowerment**. Health literacy is rooted in the health promotion movement, with the aim to empower people as citizens, members of the workforce, consumers and patients so that they can better make decisions about their health and improve their skills in managing themselves. Empowerment is both a process through which people gain more control over their lives, their health and its determinants and an outcome that reflects the ability of people – individuals or communities – to influence the world. Through empowerment, health literacy programmes contribute to democratising the health care system and to achieving a stronger commitment to health and well-being in communities and in society at large.

6 Conclusions

- Inequalities are caused by a fundamental inequity in the distribution of power, money and resources. This has an impact on the opportunities for good-quality work, education and housing, etc. In turn, these determinants shape individual experiences and health throughout life.
- Health literacy and functional literacy are very closely related and the terms 'literacy,' 'health literacy' and 'functional health literacy' are often used interchangeably in research literature. Functional literacy has been defined as "the ability to read, write and speak in English, and to use mathematics at a level necessary to function at work and in society in general"). In many definitions of health literacy, there is no clear difference between functional literacy and health literacy except that health literacy is associated with the healthcare environment.
- Whilst it is generally accepted that individuals with limited health literacy have poorer health outcomes and poorer use of health services, the relationship between literacy (functional and health literacy) and health inequalities is unclear.
- Health literacy is correlated with age, employment status, social status, financial deprivation and education. Limited health literacy follows a social gradient and can further reinforce existing inequalities. People with limited health literacy most often have lower levels of education, are older adults, are migrants and depend on various forms of public transfer payments.
- Strengthening health literacy can help to address health inequalities because:
    - Health literacy is an asset for individuals and communities.
    - Health literacy is an important form of social capital.
    - Health literacy means empowerment.

References

[1] Berkham, N.D., Sheridan, S.L., Donahue, K.E., Halpern, D.J., & Crotty, K. (2011). Low health literacy and health outcomes: An updated systematic review. Annals of Internal Medicine, 155, 97-107.
[2] Baker, DW. (2006). The meaning and measure of health literacy. Journal of General Internal Medicine, 21, 878-883.
[3] See http://www.maastrichtuniversity.nl/web/Institutes/FHML/CAPHRI/DepartmentsCAPHRI/InternationalHealth/ResearchINTHEALTH/Projects/HealthLiteracyHLSEU.htm
[4] Sorensen, K. 2012: Health literacy and public health: A systematic review and integration of definitions and models, BMC Public Health, 12(80)
[5] Insert ref once the action plan is published
[6] Berkham, N.D., Sheridan, S.L., Donahue, K.E., Halpern, D.J., & Crotty, K. (2011). Low health literacy and health outcomes: An updated systematic review. Annals of Internal Medicine, 155, 97-107.
[7] Graham H. (2009) The challenge of health inequalities, In: Graham H. Understanding health inequalities. Maidenhead: Open University Press.
[8] Audit Scotland (2012): Health Inequalities in Scotland http://www.audit-scotland.gov.uk/docs/health/2012/nr_121213_health_inequalities.pdf

[9] NHS Health Scotland (2013). Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. http://www.healthscotland.com/uploads/documents/23047-1.%20HealthInequalitiesPolicyReview.pdf
[10] Commission on Social Determinants of Health (2008). Closing the gap in a generation: Health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health. Geneva: World Health Organization.
[11] Davey-Smith G, Hart C, Watt G, Hole D, Hawthorne V. (1998). Individual social class, area-based deprivation, cardiovascular disease risk factors, and mortality: the Renfrew and Paisley study. Journal of Epidemiology and Community Health, 52: 399–402.
[12] NHS Health Scotland (2013). Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. http://www.healthscotland.com/uploads/documents/23047-1.%20HealthInequalitiesPolicyReview.pdf
[13] Wilkinson R. and Pickett K. (2009). The Spirit Level: why more equal societies almost always do better. London: Allen Lane.
[14] Roelfs, D.J., Short, E., Davidson, K.W. and Schwartz, J.E. (2011). Losing life and livelihood: A systematic review and meta-analysis of unemployment and all-cause mortality. Social Science & Medicine, 72: 840–854.
[15] Davey-Smith G, Hart C, Watt G, Hole D, Hawthorne V. (1998). Individual social class, area-based deprivation, cardiovascular disease risk factors, and mortality: the Renfrew and Paisley study. Journal of Epidemiology and Community Health, 52: 399–402.
[16] Roelfs, D.J., Short, E., Davidson, K.W. and Schwartz, J.E. (2011). Losing life and livelihood: A systematic review and meta-analysis of unemployment and all-cause mortality. Social Science & Medicine, 72: 840–854.
[17] NHS Health Scotland (2013). Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. http://www.healthscotland.com/uploads/documents/23047-1.%20HealthInequalitiesPolicyReview.pdf
[18] Fair Society, Healthy Lives. The Marmot Review. Executive Summary (2010). Strategic Review of Health Inequalities in England post 2010. https://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-executive-summary.pdf
[19] NHS Health Scotland (2013). Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. http://www.healthscotland.com/uploads/documents/23047-1.%20HealthInequalitiesPolicyReview.pdf
[20] Egan, M., Tannahill, C., Pettigrew, M. and Thomas, S. (2008). Psychosocial risk factors in home and community settings and their associations with population health and health inequalities: A systematic meta-review. BMC Public Health, 8, 239.
[21] Fair Society, Healthy Lives. The Marmot Review. Executive Summary (2010). Strategic Review of Health Inequalities in England post 2010. https://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-executive-summary.pdf
[22] NHS Health Scotland (2013). Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. http://www.healthscotland.com/uploads/documents/23047-1.%20HealthInequalitiesPolicyReview.pdf
[23] NHS Health Scotland (2013). Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. http://www.healthscotland.com/uploads/documents/23047-1.%20HealthInequalitiesPolicyReview.pdf
[24] Galobardes, B., Lynch, J.W. and Davey Smith, G. (2008). Is the association between childhood socio-economic circumstances and cause-specific mortality established? Update of a systematic review. Journal of Epidemiology and Community Health, 62, 387- 390.
[25] NHS Health Scotland (2013). Health Inequalities Policy Review for the Scottish Ministerial Task Force on Health Inequalities. http://www.healthscotland.com/uploads/documents/23047-1.%20HealthInequalitiesPolicyReview.pdf

[26] Walsh, D., Bendel, N., Jones, R. and Hanlon, P. (2010). It's not 'just deprivation': Why do equally deprived UK cities experience different health outcomes? Public Health, 124, 487-495.
[27] Reid, J. Excess mortality in the Glasgow conurbation: exploring the existence of a Glasgow effect. PhD thesis. University of Glasgow Faculty of Medicine, September 2008.
[28] Public Health Wales (2010). Health Literacy in Wales: A scoping document for Wales. http://www2.nphs.wales.nhs.uk:8080/communicationsgroupdocs.nsf/61c1e930f9121fd080256f2a004937ed/a2588bc62b678a5b802578c70032b10e/$FILE/Health%20Literacy%20Scoping%20Document%20FINAL%20Sarah%20Puntoni.pdf
[29] Easton, P., Entwistle, V.A. and Williams, B. (2010). Health in the 'hidden population' of people with low literacy. A systematic review of the literature. BMC Public Health Aug 5, 10, 459.
[30] Easton, P. (2011). Exploring the pathways to poor health in the 'hidden population' with low literacy. Ph.D Thesis/ University of Dundee. http://discovery.dundee.ac.uk/portal/files/1199257/Easton_phd_2011.pdf
[31] Easton, P., Entwistle, V.A. and Williams, B. (2010). Health in the 'hidden population' of people with low literacy. A systematic review of the literature. BMC Public Health Aug 5, 10, 459.
[32] Easton, P., Entwistle, V.A. and Williams, B. (2010). Health in the 'hidden population' of people with low literacy. A systematic review of the literature. BMC Public Health Aug 5, 10, 459
[33] Easton, P., Entwistle, V.A. and Williams, B. (2010). Health in the 'hidden population' of people with low literacy. A systematic review of the literature. BMC Public Health Aug 5, 10, 459.
[34] Berkham, N.D., Sheridan, S.L., Donahue, K.E., Halpern, D.J., & Crotty, K. (2011). Low health literacy and health outcomes: An updated systematic review. Annals of Internal Medicine, 155, 97-107.
[35] Berkham, N.D., Sheridan, S.L., Donahue, K.E., Halpern, D.J., & Crotty, K. (2011). Low health literacy and health outcomes: An updated systematic review. Annals of Internal Medicine, 155, 97-107.
[36] World Health Organisation (2013): Health Literacy: the solid facts
[37] HLS-EU Consortium (2012): Comparative Report Of Health Literacy In Eight EU Member States. The European Health Literacy Survey HLS-EE , Online Publication: http://www.health-literacy.eu
[38] http://www.legislation.gov.uk/ukpga/2010/15/contents
[39] Zamora, H. and Clingerman, E.M. (2011) Health literacy among older adults: A systematic literature review. Journal of Gerontological Nursing, 37, 41-51.
[40] Gellad, W.F., Grenard, J.L. and Marcum, Z.A. (2011). A systematic review of barriers to medication adherence in the elderly: Looking beyond cost and regimen complexity. American Journal of Geriatric Pharmacotherapy, 9, 11-23.
[41] DeWalt, Darren A,MD, MPH, & Hink, A., MPH. (2009). Health Literacy and Child Health Outcomes: A Systematic Review of the Literature. Pediatrics, 124, S265.
[42] Sanders, L. M., Federico, S., Klass, P., Abrams, M. A., & Dreyer, B. (2009). Literacy and Child Health: A Systematic Review. Archives of Pediatrics & Adolescent Medicine, 163, 131-140.
[43] Sanders, L. M., Federico, S., Klass, P., Abrams, M. A., & Dreyer, B. (2009). Literacy and Child Health: A Systematic Review. Archives of Pediatrics & Adolescent Medicine, 163, 131-140.
[44] Sanders, L. M., Federico, S., Klass, P., Abrams, M. A., & Dreyer, B. (2009). Literacy and Child Health: A Systematic Review. Archives of Pediatrics & Adolescent Medicine, 163, 131-140.
[45] Sanders, L. M., Federico, S., Klass, P., Abrams, M. A., & Dreyer, B. (2009). Literacy and Child Health: A Systematic Review. Archives of Pediatrics & Adolescent Medicine, 163, 131-140.
[46] Ormshaw, M. J., Paakkari, L. T., & Kannas, L. K. (2013). Measuring child and adolescent health literacy: A systematic review of literature. Health Education, 113, 433-455.
[47] World Health Organisation (2013): Health Literacy: The Solid facts. http://www.euro.who.int/__data/assets/pdf_file/0008/190655/e96854.pdf
[48] World Health Organisation (2013): Health Literacy: The Solid facts. http://www.euro.who.int/__data/assets/pdf_file/0008/190655/e96854.pdf
[49] Oldach, B. R., & Katz, M. L. (2014). Health literacy and cancer screening: A systematic review. Patient Education and Counseling, 94, 149-157.

[50] Fraser, S. D. S., Roderick, P. J., Casey, M., Taal, M. W., Yuen, H. M., & Nutbeam, D. (2013). Prevalence and associations of limited health literacy in chronic kidney disease: A systematic review. Nephrology Dialysis Transplantation, 28, 129-137.
[51] Al Sayah, F., Majumdar, S. R., Williams, B., Robertson, S., & Johnson, J. A. (2013). Health Literacy and Health Outcomes in Diabetes: A Systematic Review. Journal of General Internal Medicine, 28, 444-452.
[52] Loke, Y. K., Hinz, I., Wang, X., & Salter, C. (2012). Systematic review of consistency between adherence to cardiovascular or diabetes medication and health literacy in older adults. Annals of Pharmacotherapy, 46, 863-872
[53] Wang, X., & Salter, C. (2012). Systematic review of consistency between adherence to cardiovascular or diabetes medication and health literacy in older adults. Annals of Pharmacotherapy, 46, 863-872.
[54] Loke, Y. K., Hinz, I., Wang, X., Rowlands, G., Scott, D., & Salter, C. (2012). Impact of health literacy in patients with chronic musculoskeletal disease-systematic review. PLoS ONE [Electronic Resource], 7, e40210.
[55] Lowe, W., Ballinger, C., Protheroe, J., Lueddeke, J., Nutbeam, D., Armstrong, R., Falzon, L., Edwards, C., Russell, C., McCaffery, K. and Adams, J. (2013). Effectiveness of musculoskeletal education interventions in people with low literacy levels: a systematic review. Arthritis Care and Research, 65, 1976-1985.
[56] Baker, D.W., DeWalt, D.A., Schillinger, D. Hawk, V., Ruo, B. and Bibbins-Domingo, K (2011). "Teach to Goal": Theory and Design Principles of an Intervention to Improve Heart Failure Self-Management Skills of Patients with Low Health Literacy. Journal of Health Communication, 16, 73-88.
[57] Jorm, A.F. (2012). Mental health literacy: Empowering the community to take action for better mental health. American Psychologist, 67, 231-243.
[58] Friedli, L., Themessl –Huber, M. and Butchart, M. (2012). Evaluation of Dundee Equally Well Mental Health Literacy.
http://www.dundeepartnership.co.uk/sites/default/files/Mental%20Health%20Literacy%20Report.pdf
[59] Public Health Wales (2010). Health Literacy in Wales: A scoping document for Wales.
http://www2.nphs.wales.nhs.uk:8080/communicationsgroupdocs.nsf/61c1e930f9121fd080256f2a004937ed/a2588bc62b678a5b802578c70032b10e/$FILE/Health%20Literacy%20Scoping%20Document%20FINAL%20Sarah%20Puntoni.pdf
[60] Emerson, E. and Baines, S. (2010). Health Inequalities and Learning Disabilities in the UK.
http://www.improvinghealthandlives.org.uk/uploads/doc/vid_7479_IHaL2010-3HealthInequality2010.pdf
[61] Emerson, E. and Baines, S. (2010). Health Inequalities and Learning Disabilities in the UK.
http://www.improvinghealthandlives.org.uk/uploads/doc/vid_7479_IHaL2010-3HealthInequality2010.pdf
[62] Berkman, N.D., Sheridan, S.L., Donahue, K.E., Halpern, D.J. and Crotty, K. (2011). Low health literacy and health outcomes: an updated systematic review. Annals of Internal Medicine, 11, 97-107.
[63] Weekes, C. V. (2012). African Americans and health literacy: a systematic review. The ABNF Journal: Official Journal of the Association of Black Nursing Faculty in Higher Education, Inc, 23, 76-80.
[64] http://www.equalityhumanrights.com/advice-and-guidance/new-equality-act-guidance/
[65] Public Health Wales (2010). Health Literacy in Wales: A scoping document for Wales.
http://www2.nphs.wales.nhs.uk:8080/communicationsgroupdocs.nsf/61c1e930f9121fd080256f2a004937ed/a2588bc62b678a5b802578c70032b10e/$FILE/Health%20Literacy%20Scoping%20Document%20FINAL%20Sarah%20Puntoni.pdf

[66] Berkham, N.D., Sheridan, S.L., Donahue, K.E., Halpern, D.J., & Crotty, K. (2011). Low health literacy and health outcomes: An updated systematic review. Annals of Internal Medicine, 155, 97-107.
[67] Bambra, C., Gibson, M., Sowden, A., Wright, K., Whitehead, M. and Petticrew, M. (2010). Tackling the wider social determinants of health and health inequalities: evidence from systematic reviews. Journal of Epidemiological Community Health, 64, 284-291
[68] Bambra, C., Gibson, M., Sowden, A., Wright, K., Whitehead, M. and Petticrew, M. (2010). Tackling the wider social determinants of health and health inequalities: evidence from systematic reviews. Journal of Epidemiological Community Health, 64, 284-291.
[69] HLS-EU Consortium (2012): Comparative Report Of Health Literacy In Eight EU Member States. The European Health Literacy Survey HLS-EE , Online Publication: http://www.health-literacy.eu
[70] HLS-EU Consortium (2012): Comparative Report Of Health Literacy In Eight EU Member States. The European Health Literacy Survey HLS-EE , Online Publication: http://www.health-literacy.eu
[71] HLS-EU Consortium (2012): Comparative Report Of Health Literacy In Eight EU Member States. The European Health Literacy Survey HLS-EE , Online Publication: http://www.health-literacy.eu
[72] Fair Society, Healthy Lives. The Marmot Review. Executive Summary (2010). Strategic Review of Health Inequalities in England post 2010. https://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-executive-summary.pdf
[73] Furuya Y., Kondo, N., Yamagata, Z. and Hashimoto H. (2013). Health literacy, socioeconomic status and self-rated health in Japan. Health Promotion International, Oct 16.
[74] Coughlan, D., Turner, B. and Trujillo, Q. (2013). Motivation for a health-literate health care system. Does socioeconomic status play a substantial role? Implications for an Irish Health Policymaker. Journal of Health Communication, 18 (suppl 1), 158-171.
[75] Doyle G., Cafferkey K. and Fullam, J. (2012). The European Health Literacy Survey: Results from Ireland.Dublin, Ireland: University College Dublin.
[76] Public Health Wales. (2011). What is health literacy? http://www.wales.nhs.uk/sitesplus/888/page/55407
[77] Peerson, A. and Saunders, M. (2009). Health literacy revisited: what do we mean and why does it matter? Health Promotion International, 24, 285-296.
[78] Pleasant A. and Kuruvilla K. (2008). A tale of two health literacies: Public health and clinical approaches to health literacy. Health Promotion International, 23, 152-159.
[79] Harris, J. Community based peer support: Developing a model for promoting health literacy (COPES) http://www.lfphwm.org.uk/component/docman/doc_download/198-community-based-peer-support-janet-harris?Itemid=129
[80] Netto, G., Bhopal, R., Khatoon, J., Lederle, N. and Jackson, A. (2008). Health promotion and prevention interventions in Pakastani, Chinese and Indian communities related to CVD and cancer: A review of the published evidence in the UK, other parts of Europe and the United States. http://www.equalitiesinhealth.org/public_html/publications/Review%20of%20health%20interventions.doc
[81] World Health Organisation (2013): Health Literacy: the solid facts
[82] Abel T. Cultural capital and social inequality in health. Journal of Epidemiology and Community Health, 2008, 62:e13
[83] Abel T, Frohlich KL. Capitals and capabilities: linking structure and agency to reduce health inequalities. Social Science and Medicine, 2012, 74:236–244.
[84] Fair Society, Healthy Lives. The Marmot Review. Executive Summary (2010). Strategic Review of Health Inequalities in England post 2010. https://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-executive-summary.pdf
[85] Mitic W, Rootman I. An intersectoral approach for improving health literacy for Canada. Ottawa, Public Health Agency of Canada, 2012