**Critical Health Literacy for the Marginalised: Empirical Findings**

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<h1> **Introduction**

Definitions of health literacy have differentiated between functional, interactive and critical health literacy (CHL). The latter describes advanced literacy skills which may be used to critically analyse information but crucially to use this information to exert greater control over life events and situations that impact on health. CHL includes the development of “skills and abilities that enable citizens to become aware of public issues to participate in critical dialogue about them, and to become involved in decision-making processes” (Zarcadoolas et al 2006, p61). CHL connects closely to the concept of health promotion and is a key outcome of empowerment strategies that seek to develop personal skills, build healthy public policy and create supportive environments.

Individual lifestyle factors, social and community networks, living and working conditions and general socio-economic, cultural and environmental conditions have all been presented as important in determining health (Dahlgren and Whitehead, 1991). The body of work evidencing the impact of these social determinants of health has grown considerably over the last ten years and links are now well established and more fully understood (Marmot et al,

2012). Literacy is a social determinant influencing health both directly and indirectly: directly through the difficulty of gathering and comprehending health information and the organization and functioning of the health care system; and indirectly through the personal and socioeconomic challenges that often go with limited literacy: e.g. self-confidence, employment, income, housing, healthy eating, and the stress that comes from constant worry about meeting these basic human needs for ourselves and our families. Research has shown that people with a better education have lower morbidity rates from the most common chronic diseases (Cutler and Llera-Mune, 2006) which is, in part, because of the effects of education on adult income, employment and living conditions (Marmot et al, 2012). The opportunities then for marginalised, vulnerable and disadvantaged groups to be actively involved in decisions about their health and to take control of their health and the conditions that affect their health may be limited by their health literacy skills. As lifelong learning (both formal and informal) improves health literacy which influences health outcomes, there is a need to develop health literacy across the life course. There is for example, substantial evidence that low health literacy is associated with older age and difficulties coping with health system demands, complex information environments including mental health and declining cognitive function (Wister et al, 2010, Murray et al, 2011), yet the opportunities for this age group to develop CHL are correspondingly limited.

CHL has built on the idea of “critical consciousness” derived from the emancipatory adult education and participatory empowerment philosophy of Paolo Freire. Freire developed a pedagogy in Brazil with illiterate workers based on an education of questioning, in which the development of the vocabulary of the learners’ daily life promoted dialogue between the participants which would address the questions of their social conditions. Thus, teaching words becomes a means to teaching about the world rather than an end in itself. Mastering the tools of the dominant language was, for Freire: ‘*not only to survive but also to fight for the transformation of an unjust and cruel society where the subordinate groups are rejected, insulted and humiliated’* (Freire, 1993 p135). For Freire, literacy is not just about reading and writing skills but is also about mobilising social resources and social capital in communities to confront and analyse their surrounding social, political and economic structures.

This chapter reports on the available evidence about strategies to improve CHL. Such strategies are important empowerment tools which have the potential to reduce health inequalities because the most vulnerable and disadvantaged people in society are at risk of limited health literacy and are known to have the poorest health outcomes.

<h1> **Defining Critical Health Literacy**

CHL is the domain of health literacy that is least well defined and developed perhaps because it takes us away from the association of health literacy with health education and forms of communication towards political action. There have been several major attempts to clarify the concept of CHL and each has a different conclusion about its core elements but they share a view that CHL is not only an individual (as in having abilities to critically assess information) but also a population asset offering a route to greater autonomy and control over health decision-making (Nutbeam, 2008; Martensson and Hensing, 2012).

The first area of CHL identified by Sykes et al (2013) in their concept analysis involves higher level cognitive and social skills that allow critical thinking and informed decision making. These cognitive skills enable someone to contextualize health information and apply it to their personal situation and context, in order to make an informed decision that benefits health and wellbeing. This area of CHL can be viewed as an asset, supporting people to engage with health information and the health care system, and exert greater control over their own health and decision making.

The second area of CHL acknowledges the importance of existing structural factors that indirectly influence someone’s health and wellbeing, comprising social and community networks, living and working conditions, and socio-economic, cultural and environmental conditions. CHL encompasses the empowerment of people to challenge and take actions regarding these determinants of health and wellbeing. This might be for example, challenging drug dealing and associated safety concerns in a neighbourhood or the use of green space. CHL is about people engaging in collective activities regarding such health issues. Porr et al (2006) describe a project with low income mothers in Australia in which the health care professional facilitates exploration of problems (e. g, inadequate financial support, lack of affordable housing and transportation concerns); the underlying commonality is that they have affected the lives of the mothers, thus leaving them powerless. The search for the sources of powerlessness goes beyond the individual, to the surrounding economic, social, and political forces. Chinn (2011) identifies the CHL competences needed for collective actions as recognising that an individual can contribute to community outcomes and having skills in working in groups and knowledge of the local community.

<h1> **A review of the evidence on the effectiveness of interventions to promote critical health literacy**

As the focus on health literacy has expanded over the past decade so have the number of reported interventions and reviews of effectiveness (Sheridan et al, 2011; Manafo and Wong, 2012; Taggart et al, 2012, D’eath et al, 2012). As Nutbeam et al (2017) point out many of the intervention studies that are included in such reviews have very broad definitions of health literacy. Few of the studies included have a focus on developing CHL although there are other reviews that synthesise the evidence of interventions explicitly designed to build empowerment (Woodall, 2010). Four reviews have included intervention studies about building CHL (Taggart et al, 2012; De Wit et al, 2017; Fernández-Gutiérrez et al, 2017; Nutbeam et al, 2017). Yet the impact that they have on critical health literary competencies are not well evidenced and the reviews recognise that this is, in part, due to the limited availability of useful tools to measure CHL.

A review by de Wit el al (2017) focusses on CHL in older adults and included interventions that sought to build comparable concepts such as empowerment. De Wit et al’s review (2017) found that two practices were important in effective interventions to develop CHL. Firstly, collaborative learning, whereby reciprocal learning about health took place between older adults and family, community members, peers and health care professionals and which de Wit et al (2017) argue is crucial for critical thinking; and secondly, social support as older adults gave it to and received it from members in their community. The next section summarises the evidence on strategies and interventions for improving CHL .

**<h2> Methods**

In identifying the empirical evidence base of interventions designed to build CHL a search of health, education and psychology electronic databases including; Scopus, PubMed, PsycInfo, Cinahl, Academic Search Complete, BioMed Central, PsycArticles, Science Direct, SocIndex and Education Research Complete was carried out using the search term “critical health literacy”. While it is recognised that interventions may actively work to build the components of CHL without actually using the terminology itself and may therefore be useful in the learning they identify, this review was specifically interested in those interventions that had a stated intention to build CHL. A decision was therefore made not to include search terms of overlapping concepts such as empowerment or community action (see Crondahl and Karlsson 2016). Given the limited pool of published literature on this subject, electronic database searches were complemented with a search of Google Scholar, grey literature and reference tracing.

The initial search of databases found 155 papers plus an additional 1,504 references through Google Scholar. Inclusion and exclusion criteria were applied that limited studies to empirical papers that included an intervention designed to build CHL and theoretical papers or concept analyses were excluded. No limiter was placed on date or geography. Studies were not excluded if they did not include an assessment of levels of CHL as a way of evaluating impact. As there are a limited number of validated tools to measure CHL, this would have restricted the returns too significantly, but impact or outcomes are reported where they have been shown.

**<h2> Findings**

Applying the inclusion and exclusion criteria to the returns resulted in 13 articles included in the review which drew on 12 interventions. Of these studies, three were reflections rather than empirical studies. As they were presented as case studies of interventions and were published in peer review journals, a decision was made to include them.

Table 1 shows the approach of the reported intervention, its context or setting, and the participants. The studies were drawn from Australia, USA, UK, Canada, Denmark, the Philippines and Germany. Seven of the studies focussed on interventions that targeted young people, the majority of which took place in schools. The rest targeted indigenous communities, socially disadvantaged adults or black and minority ethnic communities.

There was considerable variation in the nature of interventions used to build CHL as shown in Table 1. Two of the studies focused on arts based and creative strategies such as role play, iMovies and the creation of graphic novels (Banister et al, 2011; Begoray et al, 2014). Four of the interventions were offered as complementary school curriculum programmes run over a period of several weeks delivered either by external providers or by the teachers (Steckelberg et al, 2009; Gould et al, 2010; Mogford et al, 2011; McCuaig et al, 2014; Bruselius-Jensen et al, 2017). Curriculum based programmes were also offered to adults in two of studies (Muscat et al, 2017; Sykes and Wills, 2017). Four studies were community development interventions using participatory approaches such as lay educators, citizen’s juries, critical reflection and community capacity building and community action research (Estacio, 2013; Scheib and Lykes, 2013; Drew, 2014; Sykes et al, 2017).

**Table 1 Studies of Interventions to promote Critical Health Literacy**

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|  | **Study** | **Country** | **Setting** | **Participants** | **Approach** | **Evaluation** |
| 1 | Banister et al (2011) | Canada | Health care settings | Adolescent women  | Package of strategies for health care providers to develop functional, interactive and critical health literacy. These include use of text messaging, role playing, targeted internet sources, blog writing, small group work  | Case reflections |
| 2 | Begoray et al (2014) | Canada | School | Adolescents | Project to involve adolescents in the development of multi-media to build critical media health literacy. Two interventions described using iMovies/puppets and creating graphic novels.  | Case Study |
| 3 | Bruselius-Jensen et al (2017) | Denmark | School | Adolescents | A two week curriculum-integrated programme combining maths and health education to improve physical activity health literacy at functional, interactive and critical level. | Deductive data analysis of classroom dialogue using a framework derived from Nutbeam’s domains of Health Literacy. |
| 4 | Drew (2015) | Australia | Community | Aboriginal Community | Develops use of ‘natural helpers’ situated between those in need and services. They work to develop knowledge and skills on both sides.  | Reflections |
| 5 | Estacio (2013) | Philippines | Community | Indigenous community | Empowerment education model using critical reflection to gain a better understanding of how health is conceptualised within the socio-economic and political environment and its implications for practice. | Case study focussing on the discourses used by participants in the project. |
| 6 | Gould et al (2010) and Mogford et al (2011) | USA | Schools | Adolescents | Curriculum programme with two components: teaching the social determinants of health and teaching skills to take action on them.  | Reflections |
| 7 | McCuaig et al (2014) | Australia | Schools | Adolescents | The purpose of the HL@RS was to design, implement and evaluate a criticallyoriented health literacy unit to establish the ability of schools and their teachers todeliver such a unit within a school. | Qualitative methods including focus groups with students and teachers to assess experience and responses to the curriculum.  |
| 8 | Muscat et al (2017) | Australia | Adult Education | Socially disadvantaged Australians.  | A ‘shared decision-making’ training programme designed to build communicative and critical health literacy. Delivered as a core component of a broader health literacy programme.  | Qualitative interview study with the adult educators delivering the programme.  |
| 9 | Scheib and Lykes (2013)  | USA | Community | African-American and Latina women community health workers in pot-Katrina New Orleans.  | Participatory community development project that used photography and a facilitated process of reflection and analysis to document and respond to a range of social inequalities | Participatory action and photo elicitation research project.  |
| 10 | Steckelberg et al (2009) | Germany | School | Adolescents | Curriculum programme to build critical health literacy consisting of 6 modules and based on concept of evidence based medicine.  | Critical health competency test used to evaluate change in critical health literacy.  |
| 11 | Sykes et al (2017) | UK | Community | Socially disadvantaged communities  | Participatory community development project using citizen’s jury model. Communities, identified barriers to healthy eating in their community and identified opportunities and strategies to campaign and implement change. | Case study |
| 12 | Sykes and Wills (2017) | UK | Community | Parents with low literacy levels | Programme to build all domains of health literacy using informal education strategies. Participants learnt about different health topics, engaged with health providers, researched and appraised health information  | All Aspects Health Literacy Scale.  |

The detail about interventions is lacking in many studies but the school-based intervention ‘Just Health Action’ reported on by Gould et al (2011) and Mogford et al (2011) does describe a ‘Social Determinants of Health’ curriculum for secondary school children. The curriculum is based on an ecological model and focusses on upstream factors that affect health though a social justice lens. Through interactive activities, students are taught about the social determinants of health and then students are empowered to take action to influence policy and work with communities to reduce societal inequities.

Table 1 also reports on the CHL measure if any are used in the intervention. Five of the studies were categorised as case studies of interventions upon which observations and data about the process and experience were collected (Banister et al, 2011; Begoray et al, 2014; Drew, 2015; Estacio, 2013; Sykes et al, 2017). Seven of the studies included an evaluative element in order to capture impact or outcome (Steckelberg et al, 2009; Gould et al, 2010; Mogford et al, 2011; Scheib and Lykes, 2013; McCuaig et al, 2014; Muscat et al, 2017; Sykes and Wills, 2017; Bruselius-Jensen et al, 2017). Only one of these studies used a validated tool for measuring CHL (Sykes and Wills, 2017) while the rest used qualitative evaluation.

<h1> **Key learning from the evidence**

**<h2> Settings for promoting critical health literacy**

While schools offer an accessible setting for developing health literacy it was observed in two studies that the school setting reduces CHL to cognitive skills (McCuaig et al, 2014; Bruselius-Jensen et al, 2017). Gould et al (2010) offer some explanation for this stating that there is a dominant societal belief that individual choice leads to poor health outcomes and therefore that individual behaviour modification is the dominant pathway to good health. This belief, they observe, translates into an institutional focus on teaching functional and communicative health literacy over CHL.

The hierarchies of the school structure and curriculum expectations may also limit opportunities to develop personal agency in young people. Bruselius-Jensen et al (2017), for example, conducted research into a Danish classroom-based health education programme designed to develop the three tiers of health literacy related to physical activity. Through their analysis of classroom dialogue, they demonstrated that teachers facilitated the functional and, to some extent interactive, levels of health literacy but struggled to facilitate critical discussions. They observed opportunities where teachers could have been more supportive of pupil’s attempts to be critical in their discussions and of attempts to identify their own health agency.

**<h2> Approaches to developing Critical Health Literacy**

Whilst all the studies aimed to develop CHL, those that had curriculum or structured programmes were less likely to be effective. Most of the studies point to the value of participatory and action based learning and reflection (Gould et al, 2010; Mogford et al, 2011; Banister et al, 2011; Estacio, 2013; Scheib and Lykes, 2013; Begoray et al, 2014; McCuaig et al, 2014; Bruselius-Jensen, 2017; Sykes et al, 2017; Sykes and Wills, 2017) which several studies liken to an education for ‘critical consciousness’ advocated by Freire (1993). This approach is more commonly associated with community development work and can be seen to underpin the approaches taken by the four included CHL interventions based in communities (Estacio, 2013; Scheib and Lykes, 2013; Drew, 2015; Sykes et al, 2017). Typical across these interventions are approaches that seek to achieve greater social justice, with communities themselves identifying structural issues that may impact on health and working together towards a collective solution. The focus becomes one of developing critically health literate communities rather than individuals. The community-based studies did not offer measurements of CHL but the qualitative research associated with three of them (Estacio, 2013; Scheib and Lykes, 2013; Sykes et al, 2017), clearly evidenced action to address structural determinants of health by participants at a community level, the attribute of CHL less successfully evidenced by curriculum-based approaches.

In Scheib and Lykes’ study (2013) participatory action research was used with community health workers in the aftermath of hurricane Katrina in New Orleans. Participants used photography and a facilitated process of reflection and analysis to document individual recovery responses to a range of social inequalities. The data gathered pointed to an acquisition of skills and capacities that facilitated critical analyses of structural inequalities and selected responses to them amongst participants. Authors concluded that the creative process that encouraged participants to voice their concerns and understandings through images, storytelling and critical reflections, allowed participants to recognise themselves and be recognised by others as both producers of health knowledge and contributors to the responses to the post-disaster challenges.

The case study presented by Sykes et al (2017) demonstrates critical health action for change at a community level as an outcome of a community development project using a citizen’s jury model. The aim of this project was for a disadvantaged community to create a vision of a better food system for which community members and the wider organisation could campaign. This was based on a position that community members have a right to be involved in deciding what kind of food system they have. The case study demonstrates that through participatory processes whereby participants identified barriers faced by the community to eating healthy food and then to question ‘expert’ stakeholders on why those barriers existed, they became critically informed about the determinants of their diet. The process of identifying areas for change meant they also became agents of change. The processes involved in these projects are complex but address the need identified by Begoray et al (2014) for CHL interventions to involve the broader community to address multiple factors at the intrapersonal, interpersonal and community level.

**<h2> Critical Health Literacy and the Marginalised**

Six of the studies were interventions that worked with marginalised communities (Estacio, 2013; Scheib and Lykes, 2013; Drew, 2015; Muscat et al, 2017; Sykes et al, 2017; Sykes and Wills, 2017) Most had a focus on communicative health literacy and the ability to use information. Such interventions, where the goal is for the user of health care or information to become autonomous and responsible, are focused on the individual and far away from the view of health literacy and communities which Chinn (2011, p66) calls the “collectivist-minded, socially active citizen who prioritizes the common good and public health goals”.

 One of the key learning points is the importance of interventions being aware of, and responsive to, the social, cultural and psychological context of participants (Bansister et al, 2011). The tailoring of interventions to cultural needs of the target groups was emphasised by Begoray et al (2014) who concluded that students’ ability to learn was tied to how harmoniously their cultural identifiers aligned with the pedagogical practices used in their learning environment, while McCuaig et al (2014) stress the importance of learning for CHL to be relevant, engaging and contemporary in order to be valued. Sykes and Wills (2017) report that the community/family-based intervention that created learning opportunities in participants’ own homes and drew on family experiences in group dialogue helped to create a knowledge-building community of learners.

**<h2> Measuring critical health literacy**

Evaluative findings are rarely reported in the studies and there is no established measure of CHL. Gould et al (2011) describe a pre –and- post intervention survey that measures four dimensions of CHL; knowledge of the social determinants of health, health inequities and health as a human right; attitudes regarding social determinants of health, human rights and activism; feelings of empowerment to use new skills and take action on the social determinants of health and; future intentions to take action. Analysis of the post-test returns is reported as being positive across all four dimensions. Other studies, such as that by Muscat et al (2017), report qualitative data on barriers and facilitators to implementation as well as student reactions. They concluded that a focus on this aspect of health literacy was appropriate and feasible for adult education settings and could be designed for groups with lower literacy when tailored for population needs.

The study reported by Sykes and Wills (2017) used the AAHLS (Chinn and McCarthy, 2012) which includes questions on participants’ attitudes about government responsibilities for addressing the wider determinants of health and found an equal split between those thinking that information and encouragement to lead healthy lifestyles was the most important matter for everyone’s health and those thinking that structural issues of good housing, education, jobs and good local facilities were the priority. The post intervention AAHLS assessment showed a slight increase in participants’ understanding of how they themselves could get involved at a political level but no evidence of participants taking any action.

Although programmes do exist that claim to be developing CHL, and many more will have explicit aims to contribute to the empowerment of individuals and communities (Crondahl and Karlsson 2016), there is currently very little evidence that such programmes are effective in improving health outcomes. Evaluations show improved self-esteem, greater awareness and even broadened networks and social support but little evidence of community mobilisation or an intention to be more active in taking control over those factors that influence health chances. This is partly due to a dearth of focused measurement instruments for CHL, weak methodologies based on small samples and limited time frames for projects.

<h1> **Discussion**

Despite the huge acceleration in interest and research in health literacy over the past decade, there has been relatively little attention to CHL. This review found only twelve interventions that sought to explicitly develop CHL. The most common target of these interventions is young people with six of the studies solely working with adolescents. This focus is perhaps understandable given the important stage of their development, their growing involvement with their own health care and the large amount of health information that is targeted at them (Manganello, 2007). Schools also offer a relatively accessible setting through which to reach this group. However, the review demonstrates a lack of interventions targeted across the life course, particularly for older people. With an aging population and a growing number of older people living with long term conditions, there is a need for older adults to fully participate in all aspects of health care. Disproportionately high levels of inadequate health literacy levels have been reported amongst older populations (Bostock et al 2012). Interventions to address low levels of health literacy amongst older people tend to focus on functional aspects such as medicine adherence (Chesser et al 2016) and Manofo and Wong’s review (2012) found no studies on CHL that aimed to support greater community action and advocacy. De Wit et al’s review of community based interventions with older people (2017) shows successful strategies and the potential reciprocal benefits of building CHL with this group.

Although some have argued that the interventions that attempt to promote all three aspects of functional, interactive and CHL are more likely to be effective (Renwick 2013), this review found that interventions that sought to build all three domains of health literacy as part of a combined programme, reported more success in developing the first two domains than the third (McCuaig et al, 2014; Bruselius-Jensen, 2017; Sykes and Wills, 2017). CHL then becomes more focussed on cognitive skills development than social action. McCuaig et al’s (2014) study, which evaluated a critically oriented health literacy unit, sought to build all three domains of health literacy and found only modest indicators of success in relation to CHL, focussing on critical analysis skills of internet health resources and an increased intention to help others. The study did not show an improvement in either the student, or teachers’ understanding of the social determinants of health or any evidence of action for change. Outside the school setting, a community based health literacy programme designed to build functional, communicative and CHL skills of parents showed similar outcomes (Sykes and Wills, 2017). In this programme, an impact was demonstrated on participants’ ability to critically appraise health information and a limited impact on participants’ ability to critically question professionals. However, there was no real change in participants’ understanding of the determinants of health or involvement in activities to challenge those factors. Without a fully developed mechanism for measuring CHL, understandings of the impact of interventions will remain limited.

Challenges in operationalising CHL and successfully building the empowerment and political action element of the concept can be seen to arise for a number of reasons. Programmes that seek to build all three domains of health literacy may simply be too ambitious with too many skills and knowledge requirements to successfully address within one time limited programme. In this case, the more tangible and measurable aspects of health literacy are likely to become the focus. The constraints that exist within institutional settings such as schools when developing social and political agency have already been discussed but the nature of curriculum based interventions may also create constraints. This review has shown the studies that have most successfully developed an understanding of the social determinants of health and political action for change are those based on a critical pedagogical cycle of identifying the issue, reflection and dialogue on the causes of the issue and the promotion of social action (Freire, 1993). The last stage in this cycle has been shown to be the hardest to achieve (Matthews, 2013) and has been described as ‘difficult and slow…a continuing process, not a single event.’ (Matthews, 2013, p608), requiring advanced facilitations skills with an active commitment to a democratic learning environment (Dawkins-Moultin et al, 2016; Kaufman and Fobes, 2008).

**<h1 > Conclusions**

Nutbeams’ original presentation of the concept of CHL explicitly incorporated within it the ‘*skills which investigate the political feasibility and organisational possibility of various forms of action to address social, economic and environmental determinants of health’* (2000 p265).A lack of understanding and awareness of this aspect of CHL has already been reported (Sykes et al, 2013) and this review of effective interventions highlights the challenges of developing CHL due, in part, to intervention goals that privilege cognitive skills. The report of the Commission of the Social Determinants of Health (2008) makes clear how inequities in health both within and between countries, could be reduced by focusing on the social determinants of health. ‘Closing The Gap In A Generation’ (CSDOH 2008), the final report produced by the Commission on Social Determinants of Health, while discussing literacy as a determinant of health, makes little mention of health literacy. This is despite the health literacy movement making claims that health literacy is a critical determinant (WHO 2013). The report does however call for the scope of health literacy to be expanded to include *‘the ability to access, understand, evaluate and communicate information on the social determinants of health’* (CSDOH 2008 p189). The Shanghai Declaration on promoting health in the 2030 Agenda for Sustainable Development (WHO 2016) similarly refers to health literacy as a critical determinant of health and states that the outcome of health literacy is not only to empower individual citizens but also to enable their engagement in **collective** health promotion action which is described as effective action on the determinants of health.

Despite the challenges of conceptualising and operationalising the concept of CHL, its contribution within the health literacy movement should not be neglected.

**References**

Banister, E., Begoray, D. and Daly, K. (2011) ‘Responding to adolescent women’s reproductive Health Concerns: Empowering clients through health literacy’, Health Care for Women International, 32: 344–354

Begoray, D. L., Banister, E. M., Wharf Higgins, J. and Wilmot, R. (2014) ‘Online,

tuned in, turned on: Multimedia approaches to fostering critical media health literacy

for adolescents’, Asia-Pacific Journal of Health, Sport and Physical Education, 5(3): 267–280.

Bruselius-Jensen, M., Bonde, A. H. and Christensen, J. H. (2017) ‘Promoting health literacy in the classroom’, Health Education Journal, 76(2): 156–168.

Chesser, A. K., Keene Woods, N., Smothers, K., & Rogers, N. (2016) ‘Health Literacy and Older Adults: A Systematic Review’, Gerontology and Geriatric Medicine, *2*: 2333721416630492.

Chinn, D. (2011) ‘Critical health literacy: a review and critical analysis’, Social Science and Medicine, 73(1): 60-67.

Chinn, D. and McCarthy, C. (2012) ‘All aspects health literacy scale (AAHLS): developing a tool to measure functional, communicative and critical health literacy in primary healthcare settings’, Patient Education and Counselling*,* 90: 247-253.

Crondahl, K. and Karlsson, E. (2016) ‘The nexus between health literacy and empowerment: a scoping review’. Sage Open 1-7.

CSDOH. (2008) ‘Closing the Gap in a Generation; Health equity through action on the social determinants of health’. Geneva, WHO.

Cutler, D. and Lleras-Muney, A. (2006) ‘Education and Health: Evaluating Theories and Evidence’ NBER Working Paper No. 12352, National Bureau of Economic Research.

Dahlgren, G. and Whitehead, M. (1991) Policies and strategies to promote social equity in health.Stockholm: Institute of Future Studies.

Dawkins-Moultin L., McDonald A., McKyer L. (2016) “Integrating the principles of socio-ecology and critical pedagogy for health promotion health literacy interventions’, Journal of Health Communication; International Perspectives, 21:supp2: 30-35.

D’Eath, M., Barry, MM., Sixsmith, J. (2012) Rapid Evidence Review of Interventions for Improving Health Literacy. Stockholm: ECDC.

de Wit, L., Fenenga, C., Giammarchi, C., di Furia, L., Hutter, I., de Winter, A.,

 and Meijering, L. (2017) ‘Community-based initiatives improving critical health literacy: a systematic review and meta-synthesis of qualitative evidence’, BMC Public Health, 18:40.

Drew, N. (2015) ‘Social and emotional wellbeing, natural helpers, critical health literacy and translational research: connecting the dots for positive health outcomes’, Australasian Psychiatry: Bulletin Of Royal Australian And New Zealand College Of Psychiatrists, 23(6): 620–622.

Estacio, E. V. (2013) ‘Health literacy and community empowerment: It is more than just reading, writing and counting’, Journal of Health Psychology, 18(8): 1056–1068.

Fernández-Gutiérrez, M., Bas-Sarmiento, P., Albar-Marín, M. J., Paloma-Castro, O. and Romero-Sánchez, J. M. (2017) ‘Health literacy interventions for immigrant populations: a systematic review’, International Nursing Review.

Freire P. (1993) Pedagogy of the oppressed. New York: Continuum/Seabody.

Gould, L., Mogford, E. and DeVoght, A. (2010) ‘Successes and challenges of teaching the social determinants of health in secondary schools: Case examples in Seattle, Washington’, Health Promotion Practice*,* 11 (3): 26s-33s.

Kaufman, P., Fobes, C. (2008) ‘Critical Pedagogy in the Sociology Classroom: Challenges and Concerns’, Teaching Sociology, 36: 26-33.

Manafo, E. and Wong, S. (2012) ‘Health literacy programs for older adults: a systematic review’, Health Education Research, 27(6): 947-60.

Manganello, J. (2007) ‘Health literacy and adolescents: a framework and agenda for future research’, Health Education Research, 23: 840-847.

Marmot, M., Allen, J., Bell, R., Bloomer, E. and Goldblatt, P. (2012) ‘WHO European review of social determinants of health and the health divide’, The Lancet*,* 380(9846): 1011-1029.

Martensson, L. and Hensing, G. (2012) ‘Health literacy–a heterogeneous phenomenon: a literature review’, Scandinavian Journal of Caring Sciences 26: 151–160.

Matthews, C. (2013) ‘Critical pedagogy in health education’, Health Education Journal, 73: 600-609.

McCuaig, L., Carroll, K. and Macdonald, D. (2014) ‘Enacting critical health literacy in the

Australian secondary school curriculum: The possibilities posed by e-health’, Asia-Pacific

Journal of Health, Sport and Physical Education, 5(3): 217–231.

Mogford, E., Gould, L. and DeVoght, A. (2011) ‘Teaching critical health literacy in the US as a means to action on the social determinants of health’, Health Promotion International, 26 (1): 4–13.

Murray, C., Johnson, W., Wolf, MS., Deary IJ. (2011) ‘The association between cognitive ability across the lifespan and health literacy in old age: The Lothian Birth Cohort 1936’, Intelligence 39: 178–87.

Muscat, D. M., Morony, S., Smith, S. K., Shepherd, H. L., Dhillon, H. M., Hayen, A., *et al.* (2017) ‘Qualitative insights into the experience of teaching shared decision making within adult education health literacy programmes for lower-literacy learners’, Health Expectations: An International Journal Of Public Participation In Health Care And Health Policy. 00:1-8

Nutbeam, D. (2000) ‘Health literacy as a public health goal: a challenge for contemporary

health education and communication strategies into the 21st century’, Health Promotion

International*,* 15(3): 259-267.

Nutbeam, D. (2008) ‘The evolving concept of health literacy’. Social Science and Medicine 67: 2072–2078.

Nutbeam, D., McGill, B. and Premkumar, P. ‘Improving health literacy in community populations: a review of progress’, Health Promotion International, 1-11 doi: 10.1093/heapro/dax015

Porr, C. Drummond, L. and Rishter, S. (2006) ‘Health literacy as an empowerment tool for low income mothers’, Family Community Health*,* 29(4): 328-335.

Renwick, K. (2014) ‘Critical health literacy: shifting textual-social practices in the health classroom’, Asia-Pacific Journal of Health, Sport and Physical Education, 5(3): 201-216

Scheib, H. and Lykes, M. B. (2013) ‘African American and Latina community health workers engage PhotoPAR as a resource in a post-disaster context: Katrina at 5 years’, Journal of Health Psychology, 18(8): 1069–84.

Sheridan, SL., Halpern, DJ., Viera, AJ., Berkman, ND., Donohue, KE. and Crotty, K. (2011) ‘Interventions for individuals with low health literacy: A systematic review’, Journal of Health Communication, 16:sup3: 30-54.

Steckelberg, A., Hülfenhaus, C., Kasper, J. and Mühlhauser, I. (2009) ‘Ebm@school--a curriculum of critical health literacy for secondary school students: results of a pilot study’, International Journal of Public Health, 54(3): 158–165.

Sykes, S., Wills, J., Rowlands, G. and Popple, K. (2013) Understanding critical health literacy; a concept analysis. *BMC Public Health.* 13: 150.

Sykes, S., Wills, J. and Popple, K. (2017) ‘The role of community development in building critical health literacy’, Community Development Journal, 1–17. DOI:10.1093/cdj/bsx019.

Sykes, S. and Wills, J. (2017 in press) ‘Challenges and opportunities in building critical health literacy’.

Taggart, J., Williams, A., Dennis, S., Newall, A., Shortus, T., Zwar, N., *et al.* (2012) ‘A systematic review of interventions in primary care to improve health literacy for chronic disease behavioral risk factors’, BMC Family Practice, 13(1): 49.

WHO, (2013) ‘The Solid Facts, Health Literacy’. Copenhagen. WHO

WHO, (2016) ‘Shanghai Declaration on Promoting Health in the 2030 Agenda for Sustainable Development’

Wister, AV., Malloy-Weir LJ., Rootman I., Desjardins R.  (2010) ‘Lifelong educational practices and resources in enabling health literacy among older adults’, Journal of Aging Health, 22: 827–54.

Woodall, J., Warwick-Booth, L. and Cross, R. (2012) ‘Has empowerment lost its power?’ Health Education Research, 27(4): 742-745.

Zarcadoolas C., Pleasant, A. and Greer, D. (2005) ‘Elaborating a definition of health literacy: a commentary’, Journal of Health Communication, 8: 119-121.