International Handbook of Health Literacy

Research, practice and policy across the lifespan

Edited by

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First published in Great Britain in 2019 by

Policy Press
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www.press.uchicago.edu

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British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data
A catalog record for this book has been requested

978-1-4473-4451-3 hardback
978-1-4473-4452-0 OA pdf
978-1-4473-4453-7 ePub

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Cover design by Hayes Design
Front cover image: istock
Printed and bound in Great Britain by CPI Group (UK) Ltd, Croydon, CR0 4YY
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Health literacy in a social context: A meta-narrative review

Ruth Pitt, Terry Davis, Jennifer Manganello, Phillip Massey, Orkan Okan, Elizabeth McFarlane, Opal Vanessa Buchthal, James Davis, Connie Arnold and Tetine Sentell

Introduction

Health literacy is often defined as how individuals 'obtain, process, and understand basic health information and health services in order to make appropriate health decisions' (Ratzan and Parker, 2000, p vi). Much health literacy research has focused on the functional skills of individuals (Lee et al, 2004; Guzys et al, 2015) and/or on the capacity of healthcare providers and health systems to support individuals with low health literacy (Baur, 2010). However, a growing body of empirical health literacy research looks beyond the individual level to the social structures in which people live (for example, dyads, families and social networks), acknowledging the role of support and resources from the social environment (Sentell et al, 2017). This literature spans diverse disciplines, topic areas and methods.

Synthesising such research is important, but challenging. The conceptualisation and operationalisation of health literacy has varied across time, disciplines, methods and research communities (Altin et al, 2014; Guzys et al, 2015). The field of health literacy continues to expand, despite lack of consensus on its central construct (Mackert et al, 2015). Likewise, the effect of social relationships on wellbeing is a broad area of research with a long history, ranging from studies of how an individual's social connections affect access to resources, to fields that focus on social structure (rather than the individual) as the unit of study (Lomas, 1998). Terms such as social networks, social support, social ties, social integration and social practice are distinct in theoretical literature, but are sometimes used 'loosely and interchangeably' in the empirical literature (Berkman et al, 2000, p 843). As with health literacy, such concepts have evolved over time and remain contested; for example, the discussion about whether social capital should be measured at the community level (a collective attribute of the group) or at the individual level (an outcome of an individual's social relationships) (Poortinga, 2006). There is, however, broad consensus that such contextual factors are critical to health outcomes (Kickbusch et al, 2013).

Given this complexity, we conducted a meta-narrative review to explore the diversity of research approaches to the social context of health literacy across the life course. Meta-narrative review is a relatively new method for evidence synthesis, with publication standards (Realist and Meta-narrative Evidence Syntheses: Evolving Standards [or RAMESES]) first published in 2013 (Wong et al, 2013). A constructivist approach to literature reviews, meta-narrative reviews compare and contrast research traditions, defined as 'a series of linked studies, each building on what has gone before and taking place within … a particular set of assumptions and preferred methodological approaches…' (Wong et al, 2013 p 2). Meta-narrative reviews are appropriate for complex areas of research where different research methods, designs and questions have been used to explore a common problem (Greenhalgh et al, 2005).

We previously examined the intersection of health literacy and social context in a systematic literature review of quantitative empirical research (Sentell et al, 2017). Other reviews on health literacy within a social context have had a similarly narrow scope. A review by Lee et al (2004) set a research agenda for improved understanding of the relationships between health literacy, social support and health outcomes. A 2015 review considered health literacy measurement at the population level, finding little measurement of social context (Guzys et al, 2015). Two reviews considered caregiver/family literacy in cancer-focused communication, noting that an individual's caregiver or family is relevant to health outcomes (Bevan and Pecchioni, 2008; Sparks and Nussbaum, 2008). These reviews concluded that social context is important to health literacy, but understudied.

Research questions

We compare research traditions (defined here as a body of research with a shared conceptualisation of health literacy and social context, drawing on a shared theoretical and empirical background) with the aim of understanding the different ways the intersection of health literacy and social context has been empirically researched. Our research questions are based on the meta-narrative review questions outlined by Greenhalgh and Wong (2013): (1) What are the different ways that empirical research has conceptualised health literacy beyond the individual level? (2) What theoretical and methodological approaches have been used? (3) What insights can be drawn by comparing different approaches and their findings? And (4) What social science theories, perspectives and/or methods are missing?

Iterative searching and scoping

We initially searched seven major health-related databases (PubMed, CINAHL, Sociological Abstracts, Social Science Citation Index, ERIC, Academic Search Complete and PsychINFO), restricted to English language (due to lack of resources for translation). Search terms were 'health literacy' plus the following terms: dyad OR triad OR caregiver OR social network OR social capital OR social support OR social network analysis/es. After browsing relevant papers and drawing on our knowledge of the field, we then searched the same databases for the following exact phrases: social health literacy; group health literacy; community health literacy; family health literacy; neighbourhood health literacy; caregiver health literacy; and distributed health literacy. These searches were lasted updated in February 2017. We also hand-searched the bibliographies of relevant articles.

Studies were excluded if they were dissertations, focused on the individual level only and/or lacked measurement or exploration of the interaction between or intersection of health literacy and social context. Our focus was on the interpersonal and community levels of interaction (that is, the micro- and meso-levels) but did not extend to the institutional or systems level. We therefore excluded studies that examined only relationships within the health system (for example, relationships between patients and providers). We also excluded studies that examined only the relationship between the individual health literacy of caregivers and the health outcomes of those they were caring for (for example, parents caring for children), but included studies that examined the health literacy of both members of a carer/patient dyad. Drawing on the meta-narrative review principle of pragmatism (Greenhalgh and Wong, 2013), we excluded the rapidly growing research area of people accessing health advice from others online (including via social media) due to the volume of material, and the blurry boundary this field creates between social networks and mass communication. This would be a productive area for future review. Finally, we excluded from analysis studies of interventions to improve health literacy through social connections (such as establishing patient support groups or training lay health educators), but such studies are discussed in 'implications for practice'.

We first analysed only the relevant quantitative empirical studies that used the specific term 'health literacy' (Sentell et al, 2017). The analysis covered 34 studies, mostly published in the last five years, and found significant overlap in the conceptualisation and measurement of 'health literacy', 'social capital' and 'social support'. The review highlighted disparate conceptualisations of the intersection of health literacy and social context, confirming the value of further exploration using a broader, interdisciplinary meta-narrative review approach.

We then re-examined both qualitative and quantitative empirical work, also informed by theoretical articles (including commentaries and editorials). Following best practice in meta-narrative review, we integrated the advice of researchers from a number of interdisciplinary fields on relevant articles and research traditions. These included: the history of health literacy research and current topics (TD, CA); health literacy in technology (PM, JM); health literacy in children and adolescents (PM, JM, OO); quantitative methods in social network analyses (JD); family context, parenting and support systems (EM); literacy and education theory (OO); social network analyses in vulnerable communities (OVB); health disparities (TS) and international health literacy (OO).

Data extraction

We classified relevant articles into empirical (qualitative or quantitative), theoretical or other (for example, scale development). For empirical papers, we developed a data extraction form based on the study research questions and meta-narrative review quality standards (Wong et al, 2013), which included methodological approach, research field, country of research, health issue, target population, key theoretical/conceptual basis and key findings.

Meta-narrative review

As can be seen in Figure 43.1, which describes our analysis process, a total of 1,048 studies were included in the initial phase of the meta-narrative review. After full text review, 34 quantitative and 19 qualitative papers met inclusion criteria. We compared and contrasted these articles in an iterative process to classify research traditions, then received guidance from experts and conducted a third round of literature searching. A total of 10 additional empirical studies met inclusion criteria. The total number of studies included was 63. All empirical articles meeting study criteria are listed in Table 43.1.

Categorising articles by research tradition proved challenging as many studies did not state an explicit theoretical basis or did not clearly articulate their approach to health literacy. Our previous review of quantitative papers (Sentell et al, 2017) divided papers into one of three categories of perspectives on the intersection of health literacy and social context; when we considered qualitative work, along with broader inclusion criteria, more categories emerged and existing categories were refined. We compared and contrasted articles in an iterative process, developing thematic categories that mostly distinguished research traditions across two domains highly relevant to research and theory: (1) whether they viewed health literacy as an individual skill or a social practice, and (2) whether they focused on the collective or individual level of analysis.

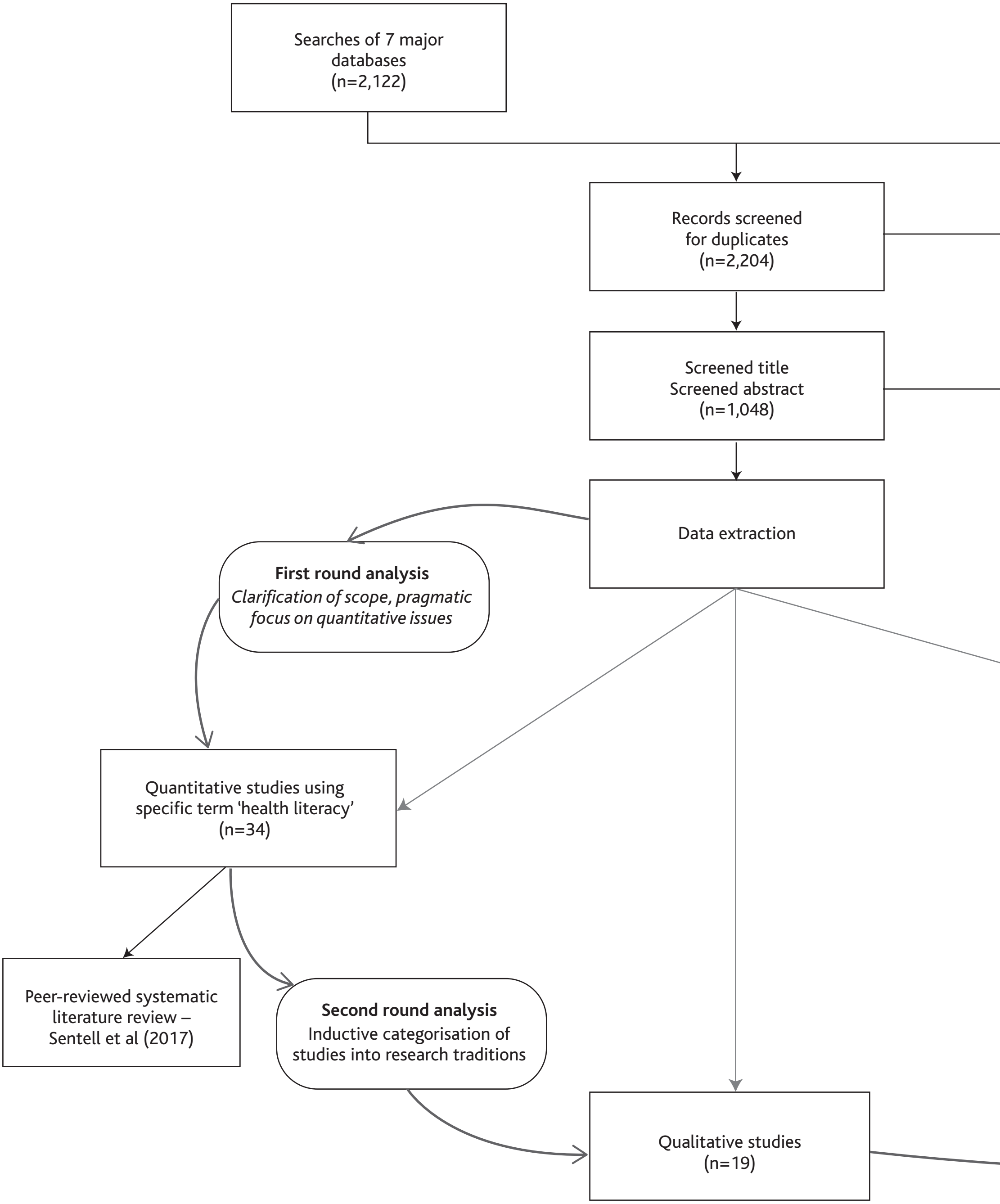
Six research traditions were identified. At this point, we recognised that our thinking about research traditions had been greatly informed by theoretical and empirical literature that did not use the specific term 'health literacy', but relevant to understanding the ability to 'obtain, process, and understand basic health information and health services in order to make appropriate health decisions' (Ratzan and Parker, 2000, p vi). For example, Choi (2008) described the role of social networks in the health care of Marshallese migrants. We included such papers in our analysis; however, an exhaustive search for all relevant studies not using the term 'health literacy' was impractical.

The research traditions are shown in Figure 43.2. Although research traditions are presented as separate boxes in the diagram, the overlap in the literature and the emergent nature of health literacy research mean that these research traditions should not be seen as separate streams of research, but as different channels of a braided river, splitting off and rejoining. The grey lines indicate particularly strong connections.

Table 43.1: Empirical studies identified under each research tradition

Research tradition	Description	Methodology	Approach to health literacy	Studies
Association	Studies measuring the association between individual-level functional health literacy and individual-level social capital, social support or social engagement	All quantitative	Functional individual skill	Kalichman et al, 1999; Arozullah et al, 2006; Lee et al, 2006; Lee et al, 2009; Johnson et al, 2010; Osborn et al, 2010; Rosland et al, 2010; Ussher et al, 2010; Rosland et al, 2011; Inoue et al, 2013; Yang et al, 2013; Fry-Bowers et al, 2014; Mayberry et al, 2014; Stewart et al, 2014; Waldrop-Valverde et al, 2014; Aikens et al, 2015; Hahn et al, 2015; Kim et al, 2015; Kobayashi et al, 2015; Maneze et al, 2016; Dong 2016; Zou et al, 2016; Waverijn et al, 2016; Geboers et al, 2016; Matsumoto et al, 2017
Resource	Studies that explore how social networks serve as a resource that individuals can draw on to support their health decisions	Qualitative or mixed-method	Social practice or quantitative measurement of functional	Macario et al, 1998; Zanchetta et al, 2007; Adkins and Corus, 2009; Bakeera et al, 2009; Smith et al, 2009; Wharf Higgins et al, 2009; Mayberry et al, 2011; Ellis et al, 2012; Mårtensson and Hensing, 2012; Edwards et al, 2012; Donelle and Hall, 2014; Rowlands et al, 2015; Black et al, 2017
Distributed	Studies that view health literacy as a shared capacity that should be understood (and measured) at the collective level	Qualitative and quantitative	Mostly social practice, quantitative papers use functional	Papen, 2009; Hunter and Franken, 2012; Hogden et al, 2013; Treloar et al, 2013; Edwards et al, 2015; Sentell et al, 2014; McGrath et al, 2015; Fairbrother et al, 2016
Definition	Studies where health literacy includes, by definition, having or leveraging social connections	Quantitative and qualitative	Functional individual skill	Jordan et al, 2010; Schmidt et al, 2010; Rubin et al, 2011; Santos et al, 2014; Beauchamp et al 2015; Chung et al, 2015; Lambert et al, 2015; Dodson et al, 2016; Jessup et al, 2017
Aggregate	Studies that view health literacy as a functional skill of the individual, where findings are aggregated or compared at the population level or within dyads	All quantitative	Functional individual skill	Cimasi et al, 2013; Garcia et al, 2013; Levin et al, 2014; Driessnack et al, 2014; Chisolm et al, 2015
Knowledges	Studies that view health literacy as the ability to negotiate multiple knowledges, including social knowledge	All qualitative	Social practice	Hinder and Greenhalgh, 2012; Lloyd et al, 2014; Schölmerich et al, 2016

Figure 43.1: Search strategies



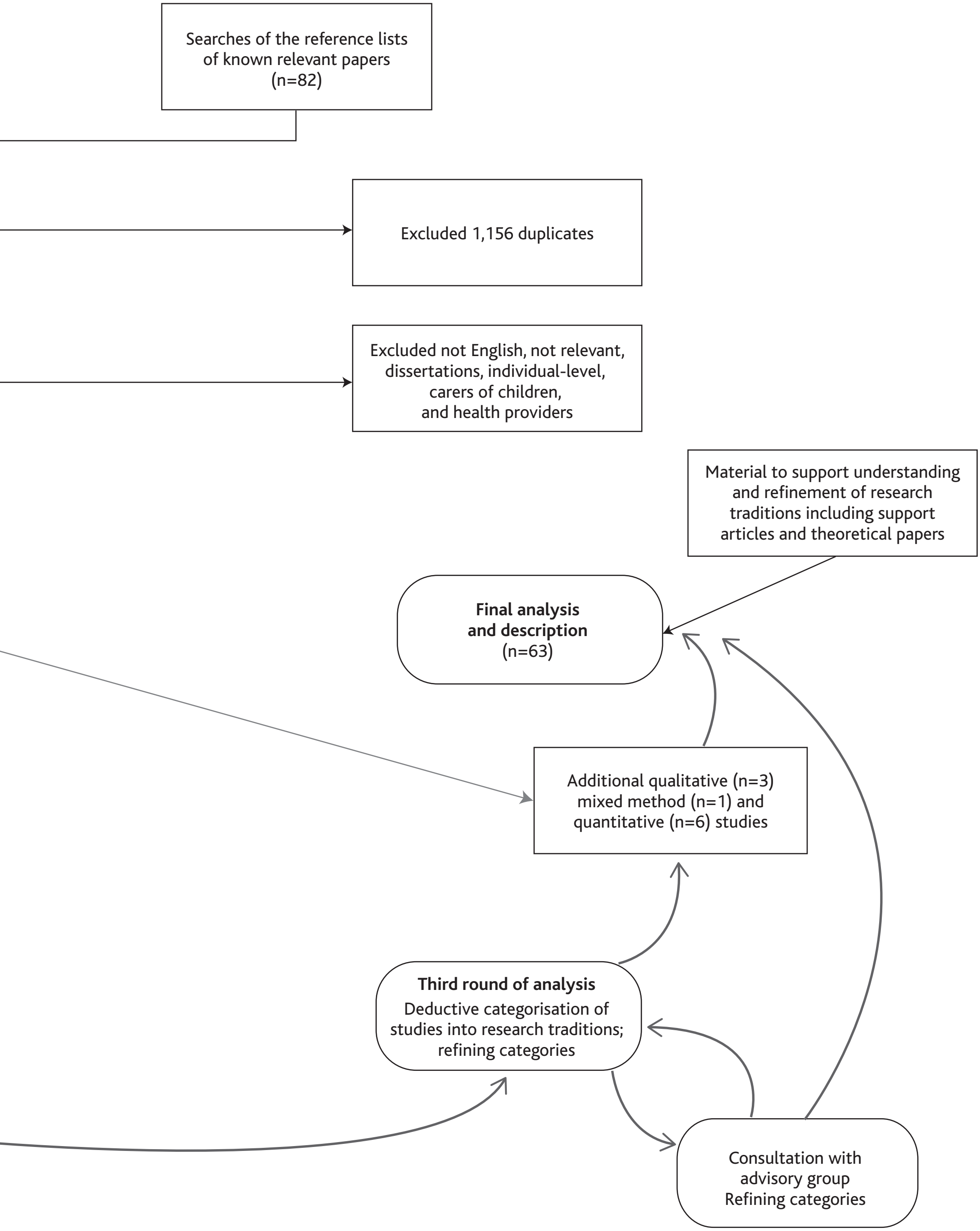
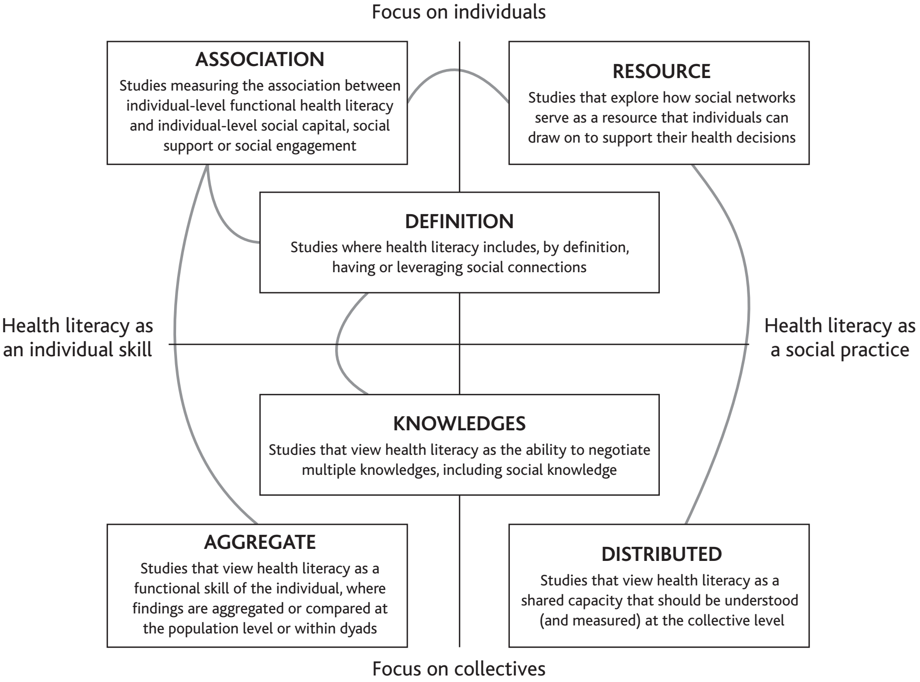

Searches of the reference lists of known relevant papers (n=82)
Excluded 1,156 duplicates
Excluded not English, not relevant, dissertations, individual-level, carers of children, and health providers
Material to support understanding and refinement of research traditions including support articles and theoretical papers
Final analysis and description (n=63)
Additional qualitative (n=3) mixed method (n=1) and quantitative (n=6) studies
Third round of analysis
Deductive categorisation of studies into research traditions; refining categories
Consultation with advisory group
Refining categories

Figure 43.2: Research traditions



The six research traditions (which we named for ease of reference) were: *association*: studies measuring the association between individual-level functional health literacy and individual-level social capital, social support or social engagement; *resource*: studies describing friends, family and social networks as a resource the individual draws on to support health decisions; *distributed*: studies describing health literacy as a distributed capacity, understood at the collective, rather than individual, level; *definition*: studies that include the skill of having or leveraging social connections in the definition of health literacy; *aggregate*: studies measuring individual-level functional health literacy, but aggregating such measures at the dyad or population level; and *knowledges*: studies viewing health literacy as the ability to negotiate multiple types of knowledge, including social knowledge.

Association

Association studies take a functional view of health literacy and examine the association between health literacy and a type of social connectedness (such as social capital, social support or social engagement), both measured quantitatively at the individual level. Of the 25 studies in the *association* research tradition, 16 were published between 2013 and 2017, so researchers have had little opportunity to build on each other's work: despite shared analysis methods and conceptual approaches, *association* studies showed little cross-citation. A key paper shaping this research tradition is Lee et al's (2004) agenda-setting review of social support, health literacy and health, cited by 12 studies (nine on social support and three on social capital). The questions underpinning *association* studies are whether people with low health literacy have more or less social support/social capital than those with higher health literacy, and whether this influences health outcomes, with mixed findings. More detail on these studies can be found in our previous review (Sentell et al, 2017).

Resource

The *resource* research tradition uses qualitative or mixed-methods to explore how friends, family and social networks are a resource for individual health decisions. Examples include Ellis et al (2012) who found that arthritis patients in Australia with low or intermediate health literacy obtained health information from people in their informal social networks who could better understand health issues, and Bakeera et al (2009) who found that the social resources of people in Eastern Uganda affected their ability to obtain health services. In many *resource* studies (such as Mårtensson and Hensing, 2012; Mayberry et al, 2014; Rowlands et al, 2015) the role of friends and family as a resource for health literacy was a finding rather than an a priori topic of investigation. *Resource* studies draw on a range of health communication theories, but Adkins and Corus (2009) also drew on the field of consumer studies, and outline how the perspective of literacy as a social practice (rather than a functional skill) has developed in the fields of literacy, consumer studies and now health literacy.

Collectively, the *resource* studies suggest further qualitative research may help to explain why *association* studies show such mixed results (see Sentell et al, 2017). For example, Mayberry et al (2011) conducted quantitative assessment suggesting participants had very low literacy, numeracy and computer skills, but also frequently accessed electronic health records. This apparent paradox was resolved when focus groups revealed that they often had more literate family members act as 'online delegates' and access records on their behalf. *Resource* studies also indicate a nuanced view is needed on how social support and health literacy interact. Those who have low literacy may draw on their social network for support, but they may also feel shame and attempt to conceal their low literacy from their social network (Adkins and Corus, 2009; Ussher et al, 2010). Specific health conditions may affect the balance between support and shame (for example, Zanchetta et al, 2007, found that men were unwilling to talk about prostate cancer). Support may also look different for different patient populations (for example, Donelle and Hall, 2014, found that female prisoners relied on networks of outreach workers and support groups, but lacked support from family and friends).

Distributed

The *distributed* research tradition views health literacy as a shared capacity that resides in the social network. In contrast to *resource* studies, where members of the social network support individual health literacy, *distributed* studies see health literacy as being understood (and even measured) at the collective level. These studies were primarily qualitative.

A key paper shaping this research tradition is Papen's (2009) exploration of how patients drew on social connections to overcome challenges with health information and health decisions. Nearly all participants in the study had someone who could undertake literacy tasks on their behalf. Papen regards these 'literacy mediators' as evidence for health literacy actually being located within the social network, whereby health literacy is something that groups (such as families) achieve collectively. Papen notes that 'an individual's health literacy could thus be seen as the sum of what she knows and is able to do herself and what she is able to achieve with the support from friends, family and other significant people in her environment' (Papen, 2009, p 27).

Papen's research connects health literacy to the field of 'new literacy studies', an interdisciplinary body of research that regards literacy as a social practice rather than a cognitive process (Street, 2003; Papen, 2012; see also Chapter 36, this volume). Such research uses qualitative and ethnographic methodologies (Black et al, 2016), focusing on the context in which literacy is situated. Therefore, studies in the *distributed* research tradition explore how people use information in their everyday lives. For example, McGrath et al (2015) highlight the implications of such theories for older adults who may be socially isolated; Edwards et al (2015) demonstrate the implications for including families in health decision-making; and Fairbrother et al (2016) explore how children's health literacy practices are embedded within their families. Edwards et al (2015) connect the concept of distributed literacy to the concept of distributed decision-making, which explores how 'our decisions are routinely distributed "over" people, they emerge, transform and solidify in and through multiple interactions with multiple others, significant or otherwise, over a period of time' (Rapley, 2008, p 436).

Another qualitative study in the distributed research tradition (Hogden et al, 2013) explores the extent of caregiver participation in decision-making for patients with amyotrophic lateral sclerosis. Despite a similar research approach and similar findings on the distributed nature of health literacy, this study does not cite others in the *distributed* research tradition, highlighting the challenge of connecting inductive findings to emerging trends in the diffuse literature.

Only one quantitative paper was categorised as being part of the *distributed* research tradition: Sentell et al (2014) show that each percentage increase of average health literacy within a community is associated with a 2 per cent increase in self-reported health for individuals in that community, concluding that both individual- and community-level health literacy are significant, distinct correlates of individual health status. We also found papers on community literacy that did not use the specific term 'health literacy' but show the promise of a quantitative approach to the 'distributed' conceptualisation of health literacy. Parashar (2005) found that a child's immunisation status was associated with the proportion of literate women in the district (independent of the education status of the child's mother), while Andrzejewski et al (2009) found that the proportion of literate adults in a community was a predictor of individual health knowledge.

Definition

Definition studies include the skill of having or leveraging social connection in the definition of health literacy, often operationalising Nutbeam's expanded definition of health literacy as including 'personal, cognitive and social skills' (2000, p 263). Many studies classified into this research tradition are related to the development and use of the Health Literacy Questionnaire (HLQ) and its predecessor, the Health Literacy Management Scale (HeLMS). These are multidimensional measures developed in response to broadening conceptual definitions of health literacy. HLQ includes a five-item scale of social support for health, with questions such as 'I have at least one person who can come to medical appointments with me' (Osborne et al, 2013; Beauchamp et al, 2015). Importantly, both the HeLMS and the HLQ were grounded in qualitative research with patient and healthcare providers about the skills important for health literacy, and this research highlighted the importance of including a social support construct (Jordan et al, 2010). Therefore, the HLQ includes some elements of a social practices perspective (common to other research traditions that were grounded in qualitative research), while also retaining questions from a functional literacy approach assessing individual ability to understand health information (Osborne et al, 2013). Other *definition* studies focused on different aspects of communication than the HeLMS and HLQ (for example, such as Rubin et al's 2011 Measure of Interactive Health Literacy, which focuses on individuals' propensity to actively seek information in interpersonal interactions) but had a similar approach of a social practices perspective supplementing, rather than supplanting, a functional health literacy perspective.

Aggregate

In the *aggregate* research tradition, health literacy is a functional skill of the individual, measured using objective tests or subjective screening, which can be aggregated at the population level (Cimasi et al, 2013) or compared within dyads (Garcia et al, 2013; Driessnack et al, 2014; Levin et al, 2014; Chisolm et al, 2015). These studies are all quantitative. Other studies that aggregate individual findings at the population level were likely excluded at the abstract stage (such as studies that merely described the prevalence or population distribution of low health literacy) but such studies could also be viewed as part of the *aggregate* research tradition. The five included studies incorporate an additional level of analysis beyond the individual level that led them to be included in this meta-narrative review.

Cimasi et al (2013) examined aggregate health literacy at the population level, and the association of population level. They found that low community-level health literacy rates are associated with increased community-level rates of preventable hospitalisations (considered a proxy for access to care), demonstrating how health literacy affects primary care and public health. Although they use data from the National Assessment of Adult Literacy, which has an individual, skill-based approach to measuring health literacy, Cimasi et al (2013) argue that future research should take an ecological approach to health literacy. Other critiques of population assessments (see, for example, Guzys et al, 2015) suggest that the direction for this research tradition may shift away from aggregation of individual-level assessments to measures specifically designed to assess the health literacy of communities, perhaps connecting to the concepts seen in the *distributed* research tradition.

Four studies compared the health literacy of patients and their carers. Garcia et al (2013) compared older adults with their caregivers and found that in a small proportion of dyads the caregiver had lower health literacy than the patient, while another study with older adults (Levin et al, 2014) found that caregivers consistently had higher health literacy than the patient, but that caregiver health literacy was still sometimes 'inadequate'. Chisolm et al (2015) also identified discordant dyads between adolescents and their parent, including caregivers with lower health literacy than the patient. Driessnack et al (2014) looked at child–parent dyads and did not find significant differences between their Newest Vital Signs (NVS) scores. Overall, these studies suggest that patient health outcomes are the result of both patient and caregiver health literacy, and that both independent and dyadic communication needs should be considered in health literacy interventions. Despite the similarities in design and research question, these four dyadic studies do not cite each other. This could be due to the close dates of publication or the fragmentation of health literacy research across different health issues and patient populations.

Knowledges

Knowledges studies are qualitative explorations of how health literacy involves the ability to negotiate multiple knowledges, including social knowledge. The key paper that led to the creation of this category was Lloyd et al's (2014) exploration of the health literacy practices of people with chronic health conditions (either HIV or chronic kidney disease), which explicitly links health literacy to emerging research traditions in the field of information literacy. This paper was published in the *Journal of Librarianship and Information Science*, unlikely to be identified in a cursory search by a health researcher, demonstrating the importance of the meta-narrative review process within the multidisciplinary field of health literacy. They explain a 'discursive shift' in information literacy from perspectives based on functional skills to a relatively recent perspective that sees information literacy as a sociocultural practice, where becoming information literate is mediated through interactions in a social setting. Positioning health literacy as information literacy in a specific context, they show the need for a similar shift in understandings of health literacy.

As with the *distributed* research tradition, the *knowledges* research tradition regards health literacy as a practice, rather than a skill or ability, and is concerned with the type of knowledge seen as legitimate in a given context. In this conception, health literacy practices enable people to draw on a range of information sources to make health-related decisions, including epistemic sources (rule-driven, objective and expressed in text), corporeal sources (experiential, embodied knowledge resulting from everyday living) and social sources (information derived through interaction with others, with may be implicit and difficult to express in writing). Lloyd et al (2014) describe how ongoing interactions, often through social groups or patient support groups, were the main social source of information, and were particularly important for sharing living experiences. Other social health literacy practices included orienting others to information, such as helping significant others to understand their health condition; sharing information with peers, particularly experiential information about issues such as self-care; and creating knowledge, such as compiling scrapbooks of recipes to share with others. They highlight that patients were not just consumers of information, but also active creators of information for family and friends. They outline a series of questions arising from their research, which could be considered a research agenda for the *knowledges* research tradition:

> how are the health information landscapes of people with chronic health conditions shaped; how does living with a chronic health condition ground the information experience of people; what are the sources of information that compose the health landscape; and how do people develop information practices that will inform their decision making. (Lloyd et al, 2014, p 214)

The other two papers included in the *knowledges* research tradition do not explicitly redefine health literacy in the way that Lloyd et al (2014) do – indeed, Hinder and Greenhalgh (2012) focus on self-management and refer to health literacy as a resource, while Schölmerich et al (2016) refer to health literacy in a way that is almost synonymous with health knowledge. However, both papers highlight the importance, and the challenge, of negotiating competing knowledges. Both studies draw on Giddens' structuration theory, which acknowledges both the constraining influence of people's environments, but also their autonomy and ability to act against constraints. Schölmerich et al (2016) examine how pregnant women from different cultures negotiate the misalignment of advice between health professionals and social networks. The study also illustrates the social practices perspective that different types of knowledge may be seen as more or less legitimate; in this case, personal experience of pregnancy was sometimes deemed to be more legitimate than medical knowledge. Unsolicited advice from the social network had a negative side, sometimes being ‘stressful’ or ‘bossy’. Schölmerich et al (2016) conclude that health literacy interventions relating to pregnancy should include social networks (particularly mothers and sisters) to ensure consistency of advice.

Hinder and Greenhalgh (2012) use an ethnographic approach to look at the physical, intellectual, social and emotional demands of diabetes self-management. This work included managing the input of family, friends and colleagues, which was not always supportive; input could also be nagging or poorly aligned with medical advice. Hinder and Greenhalgh (2012) call for studies of self-management to better acknowledge the meso- and macro-level conditions that affect management, including roles, relationships and material conditions within the family. Together, the papers classified as *knowledges* illustrate how research traditions are evolving in fields related to health literary, such as literacy, information literacy and self-management, and how such developments influence the conceptualisation of health literacy.

Discussion

The rapid proliferation of health literacy research has led to a broad and diffuse literature, with multiple perspectives on the social aspects of health literacy. While all research traditions presented may prove useful directions for future research, greater conceptual clarity is needed in order to progress the field. The empirical studies described in this review frequently lacked a connection to the theoretical literature, failed to clearly articulate their theoretical basis or drew on multiple, sometimes conflicting, conceptualisations of health literacy and/or social capital within a single paper. Linking empirical health literacy research more strongly to social theory will provide a firmer basis for research beyond the individual level.

The six suggested thematic groupings we present are based on shared assumptions and methodological approaches, but there is little cross-citation and building on previous work – in part due to studies being published within a similar time period. As health literacy is a relatively new field of research, the research traditions are still ‘emerging’, and may separate further or consolidate in future. This review highlights the need for greater attention to integration. In particular, the field lacks integration of qualitative and quantitative research, and has underused qualitative methods. Qualitative research offers explanatory power to the mixed findings seen in quantitative studies. Such issues may include how stigma and shame surrounding low health literacy may affect social support, and explorations of the ‘dark side’ of social capital where strong ties and community obligations may bring costs without benefits (Andriani, 2013). The potential benefits of greater integration may also come from qualitative findings suggesting new conceptual approaches for quantitative research.

Implications for research

Health literacy research has produced useful findings that have shaped practices and interventions, and has led to a greater understanding of how the health system can be more responsive to highly vulnerable populations. However, by focusing largely on a functional definition of literacy, public health and medicine risk neglecting the richer and more nuanced viewpoints on this topic currently available in communication, literacy theory and decision analysis. This is supported by a recent review from bibliometric analysis on health literacy literature by Massey et al (2017), which highlighted opportunities to better integrate research across disciplines.

Methodologically, this review found that health literacy research has rarely used social network analysis. This is surprising given social network research highly relevant to health literacy, such as investigating how social network composition influences health knowledge (Fonseca-Becker and Valente, 2006), or comparing the health-seeking behaviours of those with larger and smaller social networks (Askelson et al, 2011). Social network analysis may be useful to quantify the perspectives seen in the *resource* research tradition by using network analyses to predict ties and changes in ties, or in the *distributed* research tradition by examining the structures (components, cliques, neighbourhoods) and network properties (density, centrality, degree) that allow a network to effectively share distributed health literacy. Future work might also integrate theories of behavioural economics and the interface with health decision-making and literacy (Hostetter and Klein, 2013).

A challenge for future research will be exploring not only how health literacy is developed, used and sustained in a social context, but also connecting such practices with measurable health outcomes at both the individual and population level. For example, the studies presented in the *knowledges* and *distributed* research traditions provide an interesting and useful perspective on how health literacy is developed and used, but rarely test empirical connections with health outcomes or behaviour. Also, social connectedness can lead directly to health outcomes (Lee et al, 2004). It will be important to differentiate such direct outcomes from the distinct pathway of social connections supporting health literacy, and health literacy supporting health outcomes.

Finally, this review suggests the benefits of greater international collaboration and connection in the health literacy field. Most quantitative studies, especially those in the *association* research tradition, came from the US, while the qualitative studies came from many countries, particularly Australia and the UK.

Implications for practice

Each of the research traditions provides a line of evidence to support or suggest interventions to improve health literacy. For example, *distributed* supports community-based interventions to improve health literacy (as seen in Galiatsatos and Hale, 2016, where lay health educators were trained to improve health literacy in faith-based communities) while *knowledges* indicates the need for support to negotiate different sources of health knowledge (as seen in Zanchetta et al, 2012, where community health agents helped clients to harmonise scientific and popular health knowledge).

Overall, the perspectives on health literacy presented highlight the importance of interventions that both support and supplement the patient's social resources, including leveraging existing social networks, developing new social networks and providing health navigators and health coaches (Heaney and Israel, 2008). In particular, the view of health literacy as being collectively achieved challenges individualised notions of responsibility that underline many current health policies (Papen, 2009), and provides a theoretical basis for peer-support and community-based interventions. For those working at the individual level, such as healthcare providers, the studies in this review highlight the importance of considering patients' social context when discussing treatment options, and considering including family and friends in shared decision-making. However, the literature also shows that such interventions should not be implemented without a nuanced perspective on the potential positive and negative aspects of social networks. Further research may also highlight the implications for different health issues and different stages of the life course.

Strengths and limitations

The strength of this review is the meta-narrative approach to understanding the multiple research traditions emerging in health literacy research in social context. This broad perspective of health literacy captures a range of views, particularly those in literacy and information science, which might be missed in alternative review approaches that are more constrained in terms of inclusion criteria, or focus more tightly on a specific topic. Indeed, this review demonstrates the need for investment in synthesis: while primary research is usually the priority for funding bodies and career advancement, proliferation without consolidation will limit the field.

Our broad perspective is also in some ways a limitation, resulting in 'blurry boundaries' around which studies should (or should not) be included, and undoubtedly other relevant articles exist. For example, health literacy is closely connected to many related fields (including self-management, patient decision-making, patient activation and health communication), and such fields are encountering similar questions in how to explore social context, and whether processes should be understood at the individual or collective level (Batterham et al, 2016; Black et al, 2016). Also, the meta-narrative process requires time for analysis, consultation and synthesis, but health literacy is a rapidly developing field, so relevant articles will have been published since the iterative search process concluded. We are aware that the restriction to studies in English also eliminated some highly relevant work (such as Okan et al, 2015). Thus, we present a broad overview of relevant bodies of work, emerging trends and contrasting approaches, rather than a comprehensive accounting of all relevant articles.

Conclusion

As Moore et al (2005, p 1337) write: 'there is a complexity and depth to the concept of social capital and social networks that has yet to be fully explored and exhausted in public health research.' This comment is particularly apt in the case of health literacy. Our review adds support to previous calls for a social perspective on health literacy (such as Lurie and Parker, 2007; Nutbeam, 2008; Sørensen et al, 2012), and reveals current research gaps. In particular, we highlight the challenge – and promise – of negotiating the diverse, even contradictory, conceptual perspectives on the topic. Like the parable of the six blind men who each described part of an elephant, the six research traditions presented in this review provide useful perspectives on a complex topic, but greater communication between them will build a stronger evidence base.

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