Promoting health literacy in secondary schools: A review

Abstract
Schools provide a key platform for promoting health literacy in young people. Despite a long history of initiatives to create health promoting schools, and extensive literature on the construct of health literacy, there is much less research on using the school nursing workforce to promote health literacy, particularly in the English school context. In this paper we review the relevant literature and distil key messages. The school nursing workforce is small, and needs to work in partnership with other agencies. While there are clear opportunities there are also constraints on what can be achieved. As well as providing basic health information, for real health literacy to develop young people need to learn skills and become empowered to take action. More research is needed to establish how school nurses can contribute to this in the broader context of health promoting schools.

Key words
- Adolescence
- Health promotion
- School nursing
- Health literacy
- Education

Improving adolescent health literacy can potentially bring benefits for individuals (better self-care, improved wellbeing), for schools (better attendance, less burden of illness on classes and teachers, better academic attainment) and for local areas (more efficient use of services, and reduced rates of indicators such as teenage pregnancy).

As they make the transition into secondary school and become more autonomous young people start to absorb information about how to recognise health issues and to learn about where to go for health services. Existing research on their health behaviours has shown that they draw on a range of services including their GPs, community clinics and non-NHS providers, such as voluntary sector organisations providing youth information and services (Hagell et al, 2013). We know that they take advice from a range of sources, but also that they spend a significant amount of time in secondary school where they could potentially be absorbing important messages about health. School nurses are one group of key staff in the school environment who can contribute to the development of health literacy.

Our aim for this review was to clarify what we mean by health literacy in the UK secondary school context, to summarise what we know already about the role of school nursing in promoting health literacy with young people aged 10 and above, to highlight the research gaps and to explore the potential for further intervention. We were keen to assess the opportunities for interventions by school nurses either around the time of transition from primary to secondary school, or after the transition has been made.

Methods
We undertook a preliminary scoping review, drawing on published reviews on health literacy and health promotion in secondary schools, and following links to key pieces of primary research that had been published over the last 10 years. We searched several databases including PubMed and Scopus, and also did specific searches on relevant journals including Health Education Research, Health Promotion International, BMC Public Health, British Journal of School Nursing, and the Journal of Adolescent Health. Although substantial numbers of papers have been published on the construct of health literacy and the issue of health promotion in schools, very little turned out to be directly relevant when we focused specifically on the role of school nursing in the UK context.

What we mean by ‘health literacy’
The term ‘health literacy’ has been in circulation for several decades and is widely used in the international literature. As a construct it is regarded as a subdivision of the broader notion of health promotion, but it is used in a variety of different ways for different purposes. Sorensen et al (2012) identified 17 definitions of health literacy and 12 conceptual models. They distilled this to 12 dimensions referring to:

‘the knowledge, motivation and competencies of accessing, understanding, appraising and applying health-related information within the health-care, disease prevention and health promotion setting’.

Others have provided slightly clearer and more focused
definitions. The American Institute of Medicine (2004) adopted the following:

‘The degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions’.

The World Health Organization (WHO, 1998) defined health literacy as:

‘the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health’.

The National Consumer Council similarly suggested (Sihota and Lennard, 2004):

‘Health literacy is defined as: ‘the capacity of an individual to obtain, interpret and understand basic health information and services in ways which are health-enhancing’.

The core elements in all these versions are capacity/skills to process information and to make decisions in relation to health.

Professor Nutbeam, of the University of Southampton, has made an important contribution to our understanding of adolescent health literacy and has written widely on the topic. He believes that the ‘ultimate goal’ of health literacy is ‘to promote greater independence and empowerment’ rather than simply to convey information (Nutbeam, 2000). As a construct this implies the importance of creating a supportive environment for seeking help about health questions as they arise as well as teaching topic specific knowledge. The aim is to empower young people to take responsibility for their health by improving their knowledge and supporting their ability to seek help.

To summarise, the key elements of most definitions of health literacy include:

- Understanding of relevant health information, and development of the ability to assess and evaluate it
- Understanding and recognising when help is needed.
- Developing skills to manage risk and make lifestyle choices. This includes promoting interpersonal skills and confidence to ask further questions and empowering young people to take action (Nutbeam, 2000).
- Developing the ability to navigate the health system. This might also include helping young people to evaluate sources such as the internet (Gray et al, 2005; Jain and Bickham, 2014).
- Developing certain attitudes towards health issues; reducing stigma against mental health etc (St Leger, 2001).

Nutbeam has suggested that these components can be organised into a three-level hierarchy of health literacy, starting with the basic elements (which are those most commonly addressed in school-based interventions) and progressing to broader, more cultural and community oriented elements. These are shown in Figure 1.

We should note that our searches revealed a lack of good instruments to measure health literacy that do more than scratch the surface of the extent of health knowledge. Clearly, it is important to be able to assess all elements of health literacy from the simple knowledge-based elements to the more complex skill and attitudinal elements. For example, in their review of the literature on the effectiveness of school mental health literacy programmes, Wei et al (2013) included three important outcomes that need to be measured:

- Knowledge acquisition
- Stigmatising attitudes
- Help-seeking behaviours.

It would also provide useful information if young people’s engagement with health services could be evaluated as an outcome. This is not a part of the literature that has received much attention, but in one study a 61-item survey instrument was designed to measure youth engagement with health services (Sebastian et al, 2014). However, this was based in North America where the service picture is very different. It is also likely to be too cumbersome for regular use in assessing the value of interventions in the UK school context. In addition, there is little in the literature on the need to assess whether health literacy interventions have an impact on peer group behaviour; we know that peers are very important for health behaviour in adolescence, both in terms of risks but also in terms of support for help seeking. It seems likely that raising levels of health literacy will affect group dynamics.

Finally, our understanding about how health literacy affects health is, to date, a rather ignored part of the story. We do know that knowledge and attitudes do not necessarily map directly onto subsequent health behaviour. There are likely to be a range of ways in

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**Figure 1. Nutbeam’s (2000) three-level hierarchy of health literacy**

- **Level 1**
  - Basic/functional literacy—learning to read and decode health information
  - Developing knowledge, skills and understanding of health and the ability to make judgements and seek appropriate help

- **Level 2**
  - Critical health literacy—a broader level of understanding that includes becoming active members of society addressing determinants of health (not just focusing on their own individual needs)

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which the learning is linked to outcomes, and we need more research to unpack them (Von Wagner et al, 2009), particularly for the adolescent age group. The WHO recently published guidance bringing together health education and theories of behaviour change, containing some useful messages for health educators (WHO, 2012), although again not adolescent specific. For example, there is growing support for the transtheoretical model, which suggests that people go through a series of stages as they become ready to change their behaviour, and that their information and support needs are different at each stage. This might affect the planning and delivery of an intervention intended to improve health literacy. However, there is a lack of evidence to provide us with an understanding of how this might work specifically in adolescence when the pressures on behaviour might be different.

Promoting health literacy in the school environment

Promotion of health literacy in the school environment has been a longstanding activity, and there is general agreement of the suitability of school as a vehicle for promoting health. Indeed, it has been argued that health promoting schools also tend to be more effective in a range of non-health related ways (St Leger, 2001; Public Health England 2014). The 1980s saw a wave of interest in implementing health promoting schools across Europe and in North America, led in part by the WHO's (2012) programme in this area. An effective health promoting school will lead to higher levels of health literacy among the pupils. This is likely to be as important both at primary and secondary levels.

Recent assessment of the effectiveness of the WHO Health Promoting Schools framework identified health promoting school interventions as needing all of the following three elements (Langford et al, 2014):

- Input to the curriculum
- Changes to the school ethos
- Engagement with families and communities.

Simply having one or two elements was not sufficient. The Health Promoting Schools evaluation noted limited success unless the approach was holistic. Issues tackled in health promoting schools have included physical activity and nutrition, drugs and alcohol, bullying, mental health, sexual health and multiple risk behaviours among others. In their Cochrane review assessing the effectiveness of the health promoting schools programme on the basis of 67 trials, Langford et al (2014) concluded that there were mixed effects. Positive effects were noted for reductions in body mass index, physical activity, physical fitness, nutrition, tobacco use and bullying, but less impact on alcohol and drug use, mental health or violence (Langford et al, 2014). As Benham-Deal and Hodges (2009) point out, the traditional health education curriculum has been focused on specific health risk behaviours (substance use etc), rather than a skills-based approach. Some are now arguing more forcibly for the latter, including Nutbeam (e.g. 2008) who takes an asset-based rather than problem-focused approach to health literacy.

It is clear from reviews in this area that implementing a health promoting school is not just aimed at the young people but also at the entire workforce (Royal Society for Public Health, 2011; Inchley et al, 2006). Information cannot simply be provided ‘top down’ (St Leger, 2001). In addition to the importance of the whole-school approach, messages about good teaching apply just as much to developing health literacy as to any other topic—learning occurs best when the activities are meaningful to the young people and when young people get a chance to practice. Health promotion also needs a clear emphasis on decision making (Royal Society for Public Health, 2011).

Looking more specifically at attempts to promote health literacy in the secondary school setting (Wei et al, 2013) provided an overview of 27 articles (including 5 RCTs) on mental health literacy programmes. They concluded that the overall quality of evidence was very low, and that research in this area was still in its infancy, not allowing any firm conclusions about efficacy. An earlier review of mental health promotion and problem prevention in schools also concluded that there was mixed evidence for effects, and that the characteristics of more effective interventions included a focus on teaching skills, on positive mental health, on intervening early and throughout children’s time at school, and on embedding work within a whole-school approach (Weare and Nind, 2011). One recent individual RCT of a classroom-based mental health literacy intervention (HeadStrong) demonstrated improved health literacy and reduced stigma at 6-month follow-up (Perry et al, 2014).

Some studies have addressed new media as something that young people need to be educated about. In an evaluation of a four-session school-based media literacy curriculum in Germany the authors evaluated the impact on adolescent computer gaming and internet use behaviour. The programme led to reductions in gaming frequency and other indicators of potentially damaging media use behaviour (Walther et al, 2014). Other interventions have addressed alcohol use; in an evaluation of the UK Alcohol Education Trust’s ‘Talk about Alcohol’ school-based intervention, students aged 12–14 years were assessed over 16–18 months suggesting a statistically significant delay in the age at which they started to drink (Lynch et al, 2014). In one final example, a team from the University of Gloucestershire undertook focus groups with Years 9 and 11 at three schools, together with individual interviews with staff. They recommended integrating delivery of messages through the curriculum and using the vestiges of non-curriculum interventions such as the Healthy Schools Programme.

As Inchley et al (2006) point out, it may prove difficult to find evidence of effects of health literacy programmes at the individual level. Others have noted that effect sizes may be small (Weare and Nind, 2011; Langford et al, 2014;) and indeed they often are for universal public health interventions. We have already noted that
measuring the right outcome is a challenge. We might even anticipate that reported levels of some problems may rise following a health literacy intervention, if young people become more aware of issues that could potentially benefit from seeking help. More work is needed on how best to assess effectiveness.

Finally, challenges to using schools to promote health literacy have been identified as:

- Combating the traditional structures and functions of school (Weare and Nind, 2011) (indicating a need for shared vision and leadership)
- Reaching the appropriate level of teaching practices and skills (Marks 2012) (indicating a need for professional development)
- Limits to time and resources (St Leger, 2001) (indicating a need for prioritisation of the issue)
- Finding space in the school day to support the health agenda (Kilgour et al, 2013) (indicating a need to think creatively about curriculum content and establishing statutory requirements to cover the topic).

**The specific role of the school nursing workforce**

Despite the examples given above relating to health promoting secondary schools, there has been very little research on using school nursing as the delivery route for improving health literacy in adolescents. What work does exist is more focused on primary schools than secondary, and we found nothing in relation to preparations for promoting health literacy during the transition between the two. In the Royal College of Nursing (2012) publication on nursing’s contribution to public health there are several primary school examples. Similarly, in the Royal Society for Public Health’s (2011) report of a stakeholder meeting on health literacy both the examples are from primary schools. In the Royal College of Nursing (2012) publication on the Coordinated School Health Programme approach, which includes the school and also the local community (Benham-Deal and Hodges, 2009), and working with

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**Options for delivery**

To summarise, what models have been employed in order to promote health literacy through school nursing? On the basis of our overview of the existing literature we have identified the following options:

- Classroom-based delivery by school nurses—in-school lesson-based teaching, either through the general teaching curriculum, or through separate, non-curriculum PSHE sessions
- Individual contact with school nurses—through private and confidential sessions with pupils
- Wider outreach and working with outside agencies—through a larger coordinated approach including several components and organised outreach—e.g. the Coordinated School Health Programme approach, which includes the school and also the local community (Benham-Deal and Hodges, 2009), and working with
Your Community describes a range of health services (including GP and community services) for children and young people and their families. School nurses will be involved in developing and providing these and making sure you know about them.

Universal Services from your school nurse team provides the Healthy Child Programme to ensure a healthy start for every child. This includes promoting good health, for example through education and health checks, protecting health (e.g. through immunisations and identifying problems early).

Universal Plus provides a swift response from your school nurse service when you need specific expert help, which might be identified through a health check or through providing accessible services where you can go with concerns. This could include managing long-term health issues and additional health needs, reassurance about a health worry, advice on sexual health, and support for emotional and mental health wellbeing.

Universal Partnership Plus delivers ongoing support by your school nursing team as part of a range of local services working together and with you/your family to deal with more complex problems over a longer period of time.

Figure 2. Four levels of service provided by school nurses (from DH, 2014)

outside agencies such as general practitioners or voluntary sector partners.

Our searches uncovered two existing UK resources for improving health literacy that potentially could be deployed by school nurses under these headings. These include the Monkeywellbeing resources (www.monkeywellbeing.com), and the Make Waves digital badges scheme (www.makewav.es/badgesabout). Monkey Wellbeing is a set of story books and supporting materials for use by a range of partners to improve children’s knowledge, health and wellbeing. They have been implemented by various hospitals and schools with children of primary age. The digital badges initiative involves individual children being accredited with online ‘badges’ for which they undertake a series of activities, and the exercises extend up to age 16+ versions. The existing badges in this scheme include one on Getting to Know My School Nurse, the Health Champion badge, and badges on flu, stress and dental health. Both sets of resources could potentially be useful, for example, in preparations for transition to secondary. To the authors’ knowledge neither set of resources has been evaluated to assess their impact on health literacy.

The English policy background

The Healthy Child Programme (HCP) is the universal public health programme for children and families from pregnancy to 19 years of age in England (Department of Health (DH), 2010). School nurses are a key component of the programme. Other key initiatives include the National Child Measurement Programme (HSCIC, 2014) and the You’re Welcome quality criteria for young people friendly health services. The National Healthy Schools Programme is no longer funded by government although a significant proportion of schools still use the learning. This lives on in the work of, for example, the Leeds School Health Check self-validation toolkit, which builds on the underlying principles of the programme and is available to all schools (www.healthyschools.org.uk). The London Healthy Schools website offers a similar awards programme (www.healthyschools.london.org.uk). Ofsted (2010) provides guidance on how to implement Personal, Social and Health Education in schools, which currently is not a statutory part of the curriculum. However, proposals for the new Ofsted (2014) inspection framework suggest an important judgment on the school’s contribution to ‘personal development, behavior and welfare’ which includes pupil’s knowledge on how to keep themselves healthy, manage feelings and behavior and keep themselves safe from relevant risks such as exploitation.

Overall, the work of school nurses is framed by the DH’s (2011) guidance Getting it Right for Children and Families; the School Nursing Development Programme, and the recent publication of guidance to support the commissioning of public health provision for school aged children (5–19) (DH, 2014). The DH has also developed a suite of professional guidance and pathways to support delivery locally and offer clarity around roles and responsibilities for school nursing teams and key partner agencies. Figure 2 summarises the DH’s guidance on four levels of service provided by school nurses. However, the school nursing workforce is small, with around 1 200 nurses covering 20 000 primary and secondary schools in England (BBC, 2014). As the DH (2014) notes, the workforce cannot deliver extensive services without being linked to the work of other agencies.

Conclusions

There is a considerable body of support for the usefulness of whole school approaches to health. This extends both to the primary and secondary age groups. A health promoting school can promote health literacy among young people, and can empower them to take action that goes beyond the school walls. However, evidence is much more limited in relation to secondary schools than primary schools, and there is nothing on supporting health literacy through the transition from primary to secondary. The specific role of school nurses in promoting health literacy in any of these contexts has also not been extensively studied. Overall, the little research available suggests that it may be difficult to demonstrate significant effects—either because they are likely to be small, or because we are currently not measuring all the relevant outcomes.
However, there is clearly potential for school nursing to play a key role, and it seems likely that this will have more impact if input is directed not just at conveying health topic specific information, but also at developing self-care skills and empowering young people to take responsibility for all aspects of their health. The research suggests that the overall climate and culture of the school is an important context for any work that school nurses do.

Conflict of interest: This paper forms part of a project by the Association for Young People’s Health funded by the Department of Health.

British Youth Council (2011) Our school nurse: Young people’s views on the role of the school nurse. BYC, London
Hadley A (2014) Follow-up submission to Education Committee inquiry into PSHE and SRE in schools. Teenage Pregnancy Knowledge Exchange, University of Bedfordshire

Key Points

- Schools provide a key platform for promoting health literacy in young people but there is limited research on how best to do this.
- Working in partnership within schools that have an ethos of promoting health is likely to be more effective than isolated activities on the part of school nurses.
- As well as needing to learn basic health information, young people have to learn help seeking skills and be empowered to take action.