Increasingly, there is recognition within policy documents that ‘adolescence’ is a unique stage in life-course development differing from children and adults (Viner, 2012; World Health Organisation [WHO], 2014). Despite its importance, adolescent health has historically received limited attention, slow research progress and few resources (Sawyer et al., 2012; Ansley-Green, 2008). Evidence suggests that the 9.9 million young people within the United Kingdom have poorer health outcomes than those in other developed countries (Public Health England, [PHE], 2015; p5). According to Viner et al. (2011), deaths amongst adolescents aged 10–19 years are now higher than for any other period of childhood except for the new-born period. Areas of concern relate to mortality in 15 to 19-year-olds (mainly young men), and morbidity due to non-communicable diseases (Royal College of Paediatric Child Health, [RSPCH], 2017). Crucially an estimated 70% of premature adult deaths are due to behaviours begun in adolescence (Sawyer et al., 2012).

Starting at the onset of puberty and continuing into the mid-twenties, the adolescent brain undergoes a period of rapid and dramatic reorganisation (Colver & Longwell, 2013; Viner, 2012). These changes are said to rival those in the ‘early years’ with heightened sensitivity to reward occurring early in adolescence, and the development of impulse control and strategic decision-making functions occurring more gradually over a longer period, up to and beyond the age of 25 years (Giedd, 2012). Emerging evidence from adolescent neuroscience demonstrates that the consequences of cerebral reorganisation present as a significant challenge for ‘adolescents’ and for the adults who engage with them. Research findings suggest that choices and behaviours adopted during adolescence have lasting impact on the life-course of young people. Many non-communicable diseases, mental disorders, and injuries in adulthood arise from risk processes that begin in or before adolescence (Sawyer et al., 2012). The paradox of adolescent health is that although it is the ‘physically healthiest period’ of the life-span, when young people are close to the peak in strength and reaction time, the overall morbidity and mortality rates increase by up to 200% from childhood to late adolescence (Giedd, 2004; 2009).

According to WHO (2014), the second decade of life provides a unique opportunity to work with young people, empowering them to take control over many aspects of their life. Hagell and Rigby (2015), argue the capacity to learn is at its greatest during adolescence and evidence suggests the development of effective social and emotional skills is central to adult mental health, life satisfaction, socio-economic, labour market, health and health-related outcomes. Education has a significant role in promoting such skills and in improving life chances overall (PHE, 2015; Viner, 2012). Initiatives to improve secondary school enrolment and quality of education are central to health, wellbeing and human capital, and have long-lasting benefits on health and welfare over the life-course (Patton et al., 2016). There is strong evidence to suggest that those with lower levels of education are more likely to die at a younger age and are at increased risk of
poorer health throughout life (Zimmerman & Woolf, 2014; Public Health Ireland, 2008). Sawyer et al. (2012), articulates a life-course approach highlighting the dual benefits of investing in adolescent health to influence the formation of positive adult health behaviours and outcomes. According to the NHS Federation, "Investing in children and young people’s health is a cost-effective way of improving long-term health outcomes and reducing pressure on the health service as these children grow up" (NHS Confederation, 2011, p3). There is therefore a need to view education and health as reciprocal elements of adolescent development (Figure 1, see below), as poor health affects education (reverse causality).

**School as a Health Promotion setting**

Schools have long been identified as a ‘setting’ for improving health and well-being of children and young people (WHO, 1986; 1998). The transition from dependence to independence is lengthy and changes to statutory requirements for education and training have resulted in much of this time being spent in schools and colleges. This is significant as access to education and educational attainment is recognised as a key social determinant of health (Shanker et al., 2013). Young people in Secondary Education in England spend 714 hours each year in school (OECD, 2009) and school is arguably the most consistent influencing environment outside the home (Holt 2016). Schools play a critical role in the promotion of health, helping young people to establish lifelong patterns of healthy behaviour, in addition to providing education and therefore improving life-chances (Miller, Connolly & Maguire, 2013; Association of Young People’s Health [AYPH], 2015). Research demonstrates poor ‘academic performance is associated with health compromising behaviours and physical, mental and emotional problems’ (Ansari & Stock, 2010). This theory is supported by Basch (2010), who argues that healthier students are better learners. Schools have had a significant role in promoting ‘skills for life’ through Personal, Social Health and Economic (PSHE) education route which tend to focus on individual behaviours. However, health and well-being is also affected by social, economic and environmental determinants therefore successful interventions require multi-disciplinary and multi-sectorial approaches (WHO, 2018). There is now an expectation that schools should be directly involved in supporting ‘Health and Wellbeing Strategies’ with other key partners such as the Local Authority and the NHS. School settings provide a ‘captive audience’ for health and wellbeing intervention; however, paradoxically, schools are highlighting concerns in relation to deteriorating health and wellbeing of students.

Figure 1: Relationship of Health and Education in Adolescent Development
(Source: Virginia Commonwealth University; Centre for Society and Health, 2015)
This deterioration has occurred at a time of increased accountability measures (for example, Ofsted) and increasing demands on the curriculum leading to a reduction in the quality of teacher/pupil interaction and a loss of flexibility to respond to pupils as individuals (Hutchins, 2015). Consequently, there is a need to explore different collaborative approaches to ensure that health and wellbeing remain an integral element of a whole school approach.

The Healthy Futures Network Pilot

The ‘Healthy Futures Network Project’ (Rabie, Evers, Olsen & Byrne, 2017) is a cross-sector partnership between 8 ‘Founder’ schools from 5 North West sub-regions of England, Health Education England (HEE), and the University of Chester (UOC). The project aimed to examine the value of networking and collaboration across schools at a regional / sub-regional level, in respect of student health, wellbeing and employability and to assess how a network of schools and the NHS could work together to promote health and wellbeing of children and young people. It was anticipated that this ‘collaboration and partnership’ would ensure an avoidance of role duplication, and provide effective set of resources and sustainable interventions’ (DH, 2011). Collaboration is described as ‘working together to achieve mutual benefit’; with collaboration and partnership often used inter-changeably. Carnwell and Carson (2008), suggest in order to distinguish between them, we think of the “Partnership as what something is” and “Collaboration as what one does”.

Operationalisation

To ensure a seamless transition, a ‘Memorandum of Understanding’ was agreed and signed by all participating Healthy Futures Network schools to formalise the ‘Healthy Futures Network Project’. Central to the development and sustainability of the project was the appointment of a Project Manager; this role included building relationships, supporting the network schools and expanding the network. The UOC provided managerial, academic and research support. The Project Manager met with the Senior Management Team in each of the ‘Network Schools’ when a Lead person was identified. Incentives for participation included:

- Funding was provided for completion of the School and Student Health Education Unit (SHEU) ‘Fit to Succeed’ survey in each Network school.
- An iPad was loaned to each participating school to facilitate networking and data collection.
- Support was given to develop action plans based on the school survey data.
- Networking opportunities were facilitated by the University, including training opportunities.
- Membership to a ‘Closed’ Facebook link.
- Access to an on-line resource included evidence-based publications, conference presentations and links to useful websites.

Project commencement and key findings from the Pilot Surveys

Establishing the baseline for health and wellbeing was a critical element of the Network project as it would provide the schools with health-related behaviour data specific to their school. Eight schools across the North West completed the ‘Fit 2 Succeed’ (F2S) survey once.

The sample population of 4,159 pupils included High Schools, Academies, a Faith School and a Specialist Sports College. The geographical spread of the schools included city centre, urban and rural settings.

The health-related behaviour F2S survey developed by the SHEU was considered suitable for the Healthy Futures Project because it comprises a self-completed on-line survey developed over 30 years with over a million school children in the UK. The questionnaire contains both quantitative & qualitative questions. Each school received an individual report of their results which highlighted areas of concern, including a baseline of student emotional health and wellbeing. Across the schools a number of concerns were highlighted ranging from poor eating habits, inadequate water consumption, inadequate exercise, poor sleeping habits, low confidence issues, and stresses related to social media, personal life and school (see Tables 1-4).
Table 1

Results examples - Eating Habits

• Almost 50% of students found healthy eating lessons useful
• However, only 15-20% consider their health when choosing food
• 15-20% had no breakfast on day of survey
• Around 1/3 regularly eat no fruit/veg on a school day
• High % would like to lose weight

Table 2

Results example - Sleep

• Sleep is very important for young people!
• Sleep patterns very different in young people and adults.
• Graph - Average % of Network students going to bed after 11pm
• Both boys and girls show an increase from KS3 to KS4+
• Around 1/2 the KS4+ students go to bed after 11pm!
• Point of interest – link to sleep?
  • 35% of students spending over 3 hours/night on the Internet
  • 70% of internet use is on social media.

Table 3

Physical Activity

• Approx. 75% of students enjoy/really enjoy PE classes
• Approx. 60% exercise 3 or more times/week.
• % of students who ‘do NOT enjoy’ PE lessons remains a concern
• Increase in % for both boys and girls as they progress from KS3 to KS4+
• % of girls who do not enjoy PE is almost double % of boys – Why?

Table 4

Student Worries

• 60-70% of students have at least one worry
• Range of worries related to school, home, friends, health, growing up, etc

Girls:
• School work/Exams
• The way they look

Boys:
• School work/Exams
• Relationships with friends
Many of the issues could be viewed as interrelated having the potential to impact student educational attainment. Many of the F2S results have similar findings to the literature such as the *The Good Childhood Report* (Children’s Society, 2016), and the *Girls’ Attitude Survey* (Girlguiding, 2016), which indicate that nine in 10 (87%) secondary leaders reported an increase in stress, anxiety or panic attacks amongst their students while eight in 10 (80%) report seeing an increase in depression among young people in the last two years.

Importantly, the findings demonstrate an overall decrease in healthy lifestyle behaviours as students progressed from KS3 (aged 11-14 in England) to KS4 (aged 14-16 in England). Of particular concern was the decrease in healthy lifestyle behaviours which affected student emotional health, wellbeing and happiness; the findings are consistent with the *Girls’ Attitude Survey* (Girlguiding 2016), depicting the percentage of girls who are unhappy as having doubled in the past 5 years and, crucially, the project data indicate that there is a widening gap between boys’ and girls’ happiness, see Table 5 (below).

**Actions**

Utilising the survey results, the schools developed action plans to address areas of concern in collaboration with the Healthy Futures Project Manager, this included developing a strategy to affect changes within the school (see Appendix 1). Following implementation, schools completed a second survey to determine the impact of the Action Plans. The second survey results demonstrated little overall change in healthy lifestyle behaviours however, this was felt to be indicative of the time required to affect change and to observe greater benefits.

Improvements were evident, however, with regards to the profile of emotional health and wellbeing, such as the number of interventions implemented in schools, and the acknowledgement that the Senior Management Teams (SMTs) in the Network Schools were more fully engaged in addressing the Health and Wellbeing of both Staff and Students.

Network members report a change in focus regarding health concerns in school; “at first it was all about physical activity, and it’s evolved now that we have a much wider understanding of the needs of young people… People will be looking at the whole child, and physical activity is just a small part of wellbeing”.

Furthermore, one Network member reports that “we are now looking after the whole organisation in terms of wellbeing. Significant changes have been made towards student and staff wellbeing”.

The effectiveness of the networking was acknowledged to be key part of this initial success. Where benefits were seen these were
achieved through the involvement of students in the development and implementation of Action Plans. A crucial element of the action planning was the sharing and dissemination of action plans amongst network members see Table 6 (below).

**Discussion**

According to Hale and Viner (2018), health in adolescence is strongly predictive of educational outcomes, including attainment and employment. Promotion of health by schools should be an essential part of their ‘core business of increasing attainments and enhancing later life chances’ (DH, 2011; Ch. 8, p7). Given the unique position that schools have in promoting health and well-being, there is now an expectation that they be more directly involved in supporting the development and delivery of Health and Wellbeing Strategies with other key partners such as the Local Authority (LA) and the National Health Service (Ofsted, 2015). Embedding a whole school approach to Adolescent health should be considered as less of a “cost” and more of an investment. The costs of inaction are too great to ignore. Investing in adolescents will yield a triple benefit – today, into adulthood and the next generation of children (Patton et al., 2012).

The survey results suggest that the Healthy Futures Project increased awareness of the links between health and wellbeing and the impact on education and life chances for young people. Eight schools with differing demographic profiles articulated the benefits of engagement in the Project including changes in the mind-set of the managerial and teaching staff following the results of the F2S survey. Network schools reported that pupil engagement with health and wellbeing had increased as a result of the project. This is demonstrated by pupils in several schools exhibiting an increase in ‘health literacy’, defined by WHO (1998), as “the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health”. Examples of increased health literacy include pupils from KS3 volunteering to participate in several health and wellbeing interventions in collaboration with staff members. As a direct result of the project 70 pupils in one school volunteered to work as health ambassadors and peer supporters alongside staff members. Together they worked on several areas of concern identified within their school Action Plan these included, nutrition, emotional health and well-being. (See Appendix 1).

Another example concerns a drama presentation, which was written and delivered by 40 pupils, that tackled emotional health and wellbeing. Both of these examples were
presented at a healthy futures conference to showcase the impact of network membership. These examples demonstrate that the pupils involved are well on the way to achieving the goal of health literacy “to promote greater independence and empowerment rather than simply to convey information” (Nutbeam, 2000). According to Fleary et al. (2018), there is a meaningful relationship between health literacy and adolescent health behaviours. Network members did identify some project constraints, reporting difficulties associated with time and resources, and the challenge of changing the managerial culture when implementing action plans. However, others reported a change in focus regarding holistic health concerns in school;

“...at first it was all about physical activity, it’s evolved now, we have a much wider understanding of the needs of young people. People (staff) will be looking at the whole child, physical activity is just a small part of wellbeing”.

Feedback generated from the focus groups also seemed to suggest a shift in mind-set towards a whole school approach which embraced the health and wellbeing of the entire school community;

“We are now looking after the whole organisation in terms of wellbeing. Significant changes have been made towards student and staff wellbeing”.

Feedback from the focus groups also demonstrated that network members appreciated the collaborative partnership and support afforded by the University, particularly in relation to the research evidence concerning the health and wellbeing of young people; comments included:

“‘It's having a different perspective on young people’s emotional health’,

‘importance of information sharing’ e.g. Public Health England and changes to Ofsted, ‘we would not have had access to information without input from the network’, “the links with University of Chester gives it kudos”.

The Healthy Futures Network Project has demonstrated that collaboration and partnership can effectively raise awareness of health and wellbeing in the whole school community. The profile of ‘school’ as a ‘setting’ for health and wellbeing has been raised and a ‘whole school approach’ implemented in several of the network schools. There has been a shift in emphasis from health and wellbeing as being the domain of the Physical Education staff, and the linear view of obesity as the main concern, to an understanding that improving the emotional health and wellbeing of pupils would bring major benefits not just to health but also to academic attainment. In addition, the attitudes of some senior management teams and teaching staff has changed over the timeline of the Project, particularly in relation to the evidence base regarding adolescence as a second opportunity to work with young people and install self-empowerment in their life choices (WHO, 2014). In raising ‘health literacy’ levels, a pupil who is emotionally and physically healthy, happy and resilient, wants to attend school, behaves better, participates more, feels valued not only for what he/she is now but for what they can become in the future and therefore achieves academically (PHE, 2014). Pupil involvement throughout the pilot project was crucial as they are likely to be the most consistent and permanent characters in the school (between 5 and 7 years for the majority of pupils). Pupil involvement provides for creditability, sustainability and scalability of the Project and adheres to the principle of “Nothing about us without us” (National Youth Agency, 2019) and the You’re Welcome Quality Criteria (DH, 2011) and the UNGA Article 12 (1989).

Conclusions and future impact

As a direct result, three schools have identified a member of staff with a dedicated remit for health and wellbeing. One school has escalated the Healthy Futures Project to include a focus on staff health and wellbeing and interventions include supportive return to work interviews. These are showing results such as a reduction in recurring staff short-term absences by identifying and seeking to address underlying reasons for ill-health and absence. The Healthy Futures Network has expanded since the pilot began and now includes 16 Secondary schools and 7 Primary school (two schools supporting children
and young people with special needs are included in these numbers). There are also a number of affiliated organisations within the Network membership including NHS Trusts, Local authorities, Public Health Teams and a Higher Education Institute. The network approach provides a sustainable model to create synergy in schools between education and health, recognising that positive outcomes are interrelated and co-dependent on the other resulting in health and wellbeing becoming a whole school approach.

Contributions
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References


## Appendix 1: Case Studies Summary Table

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<thead>
<tr>
<th>No</th>
<th>Case Study Title</th>
<th>Aim of Intervention</th>
</tr>
</thead>
</table>
| 1  | Changing lifestyle habits through an “Out of School Hours” Learning Programme    | **The girls to have more consideration over what they eat**  
**To become more 'habitually' active over time.**  
**To grow in self-confidence throughout the programme.**  
**The majority of the girls to lose weight and to have the emotional strength and understanding to be able to maintain a healthy lifestyle once the programme is complete**                                                                                                       |
| 2  | Personal Best: Establishing a whole-school healthy lifestyle intervention (secondary) | **Short-term Aim**  
**To improve a range of aspects of physical fitness in the cohort**  
**Improvement in physical health and emotional wellbeing**                                                                                                                                  | **Long-term Aim**  
**Improved learning attitudes and ultimately attainment across the curriculum through a focus on the underlying causes of disaffection, low self-confidence and low aspiration amongst the targeted young people** |
| 3  | Worry / Anxiety / Exam Stress and Preparation                                      | **To reduce the stress and anxiety suffered by both the students and school staff**  
**Create a culture within school more conducive to collaboration and supportive learning**                                                                                                                                                                                                 |
| 4  | Increasing physical activity by engaging families.                               | **Greater awareness amongst parents / carers of Change4Life messages.**  
**An increased willingness amongst families to be more active with their children**                                                                                                                                                                                                 |
| 5  | Development of Fundamental Movement Skills in pupils aged 4-7 to increase likelihood of long-term involvement in physical activity and sport | **More children who can ride a bike aged 4-7**  
**An increased number of children participating in Bikeability at Years 5 and 6.**  
**More schools recognising the value of providing children with training to enable them to master the skill of riding a bike.**  
**Children safer on the roads in their communities.**  
**More children and families more physically active when all family members can ride a bike safely.**  
**Providing the children with the skills and competences to ride a bike in small and very rurally isolated communities,**  
**Giving young people the confidence and enthusiasm to improve their social skills and to have fun on their bikes together.** |
| 6  | Development of Fundamental Movement Skills in pupils aged 4-7 to increase likelihood of long-term involvement in physical activity and sport | **Improved fundamental basic movement competences amongst a cohort of c. 80 youngsters from across the School Sports Partnership.**  
**More students reporting greater enjoyment in physical education.**  
**A greater range in the schools' PE 'offer'**                                                                                                                                                                                                 |
<table>
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<th>No</th>
<th>Case Study Title</th>
<th>Aim of Intervention</th>
</tr>
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<tbody>
<tr>
<td>7</td>
<td>Health and wellbeing education and lifestyle choices</td>
<td>• More young people considering their health each time they eat.</td>
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<tr>
<td></td>
<td></td>
<td>• More young people declaring themselves 'in charge' of their own health.</td>
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<tr>
<td></td>
<td></td>
<td>• More young people recognising the correlation between 'taking care' of themselves and keeping healthy</td>
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<tr>
<td>8</td>
<td>Peer mentoring for emotional wellbeing</td>
<td>• Fewer young people displaying symptoms of low level mental health issues caused by e.g. family problems, exam stress, bullying etc.</td>
</tr>
<tr>
<td>9</td>
<td>Empowering young people to lead change</td>
<td>• Increased capacity for change when interventions are commissioned.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Increased self-confidence and enhanced life skills of the leaders.</td>
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<tr>
<td></td>
<td></td>
<td>• More young people declaring themselves 'proud' to be a member of DHS</td>
</tr>
<tr>
<td>10</td>
<td>Raising aspirations and improving life skills through sport and physical activity.</td>
<td>Amongst the targeted cohort of youngsters aged 11-13 (school years 7 and 8 (KS3) we were hoping to achieve:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Students with raised aspirations</td>
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<td></td>
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<td>• Students with increased self-confidence</td>
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<td></td>
<td></td>
<td>• Students with improved life and/or 'employability' skills</td>
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<tr>
<td></td>
<td></td>
<td>(communication, self-management, resilience, empathy, collaboration and motivating and influencing others)</td>
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