

**MAKING SENSE OF HEALTH AT KEY STAGE 4**  
**Key Findings and Recommendations**

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Making Sense of Health (MSoH) is a curriculum innovation funded by the Department of Health to support teaching and learning across all Key Stages (KS) within the national curriculum. The overall aims of the Making Sense of Health (MSoH) project are to:

- develop student' understanding of health issues;
- empower students to become informed patients and enable them to make educated health decisions;
- promote awareness of, and interest in, careers in healthcare;
- develop teachers' professional knowledge and practice in health education.

The KS4 MSoH resources were designed to complement the *Twenty First Century Science* curriculum for students aged 14 -16 being piloted in a small number of schools. Teachers involved in the evaluation from these schools are referred to as the pilot sample. The resources were also designed to allow flexibility in use across the curriculum areas of Science, Citizenship and Personal, Social and Health Education (PSHE). The teachers who used the resources in this way are referred to as the non-pilot sample.

The resources included three Programmes available on DVD. *Heart Disease - the evidence* (20 minutes) examines the structure and function of the human heart; the risk factors for heart disease; the nature of the evidence for these; and the lifestyle choices to help avoid these risks. *Diagnosis and Treatment* (20 minutes) looks at a range of processes in primary and secondary health care, and the team of professionals and technicians involved in them. *Human Genetics* (40 minutes) examines existing and emerging technologies in human genetics, the underlying science these rely on, and associated ethical and policy issues. The resources also include student activities, support resources for teachers, and web facilities including an on-line lesson planning tool.

## **The Evaluation Study**

The evaluation study reported on:

- teachers' and students' views of the quality and effectiveness of the resources;
- students' attitudes and decision-making in relation to health and lifestyle issues;
- impact on students' learning and job awareness;

The data collection methods included: interviews with trainers; observation of trainers' training and all professional development events; questionnaires evaluating the professional development events: and pre and post implementation questionnaires for both students and their teachers. Selected observation of teaching and interviews with students and their teachers were carried out in two case study schools.

95 teachers from non-pilot schools and 29 pilot teachers attended the professional development. 11% were PSHE teachers, the remainder predominantly biology teachers. All teachers completed evaluation questionnaires. The interim findings are based on the non-pilot sample of teachers who implemented the *Heart Disease* resources. 45 teachers provided feedback, 18 completed both pre and post-implementation questionnaires. 394 students in 6 schools provided pre and post implementation feedback.

## Findings

### Views of the professional development:

- 98% of non-pilot and 100% of pilot teachers rated the professional development good or excellent overall.

### Teachers' views of the MSoH resources:

- 98% of the non-pilot and 100% of the pilot teachers rated the MSoH Programmes good or excellent.
- Teachers rated the *Heart Disease* resources very highly with 95% of non-pilot and 100% of pilot teachers rating them good or excellent overall.
- All teachers found the *Heart Disease* resources were very good or good at: motivating students; supporting student learning; and enhancing their teaching.
- All teachers rated the *Heart Disease* resources good or excellent at developing students' ability to reflect on their attitudes and make plans for personal change in relation to their eating, smoking, drinking and exercising habits.
- All teachers planned to use the resources again and wanted more of this type.

### Students' views of the MSoH resources

Of the 394 students involved 83% were in Y10 predominantly 14 years of age, and 17% in Y11. 43% studied the resources in science lessons and 57% in PSHE lessons.

- Over two thirds of the students thought the resources were very good or good and enjoyed watching them (73%). They considered the Programmes helped their learning more than traditional teaching approaches. They found the resources relevant (83%) and interesting (74%).

*It was much better [than ordinary science lessons] ... It is more than just learning about it, you get to see it as well, to understand better.*

*I thought the worksheets were quite fun. They told you how it like all worked and stuff but they weren't pages and pages long, so they were quite quick and straight to the point, and so were the videos. I liked that.*

*It was good the way they put across the information and it wasn't boring...They made it so you stayed focused and understood it more.*

- Students particularly valued the authenticity of the resources, how they drew on real life situations and made their science learning personally relevant.
- After their study there were significant positive moves in both boys' and girls' views of the relevance of science to their lives.

## Impact on students' attitudes

- 6% of girls and 5% of boys in the sample reported they smoked regularly i.e. smoked 1 or more cigarettes daily. Of these a third reported they smoked 2-3 cigarettes a day. 10% of girls and 6% of boys categorised themselves as occasional smokers i.e. who smoked 1 or more cigarettes a week. This compares with national figures in 2004 where those who smoked at least 1 cigarette a week included 14% of girls and 11% of boys<sup>1</sup>.
- After studying *Heart Disease* there was a significant increase in the number of students seeing smoking and drugs as equally harmful and a significant decrease in the proportions of students believing that smoking is a personal choice and that smoking outdoors is acceptable.
- After their study of *Heart Disease* of those students who smoked, 44% intended to stop smoking; 53% to cut down; 38% to try to limit their smoking to outdoors; and 28% to seek help through their GPs.
- Of those students who drank (N=178) 26% reported they drank up to once a week (30% girls; 24% boys), 15% drank once or twice a week (13% girls; 18% boys), and 5% drank more than 2 times a week (2% girls; 7% boys).
- Girls (28%) more than boys (14%) reported that they were concerned about forgetting what they were doing after drinking and many more girls (50%) than boys (20%) believed drinking was bad for their health.
- After their study of *Heart Disease*, 8% expressed an intention to try to stop drinking; 14% (23% girls; 7% boys) to cut down; 23% to try to stick to government guidelines; and 1% to seek help through their GPs.

*My views of drinking have changed probably a bit more because you do get people who go out for binge drinking and that does have quite a bad effect ... so probably not to go out and have a big old booze, just to drink sensibly.*

- The MSoH resources had a very significant impact on students' attitudes to exercise. After their study there was a significant increase in the number of students realising that exercise was important for their health, particularly girls.

*I thought it was good because it made me go away and think, do I like exercise regularly or whatever [and] like someone at 30 who's already suffering from heart disease, and I thought I don't want to be like that, so I want to try and improve my lifestyle...*

- Of the 266 students responding 62% (74% girls; 52% boys) expressed an intention to start doing some additional exercise; 73% (85% girls; 63% boys) to do more exercise, and 75% (85% girls; 67% boys) to do 'better' exercise. 39% (48% girls; 32% boys) planned to seek help to improve their exercise.

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<sup>1</sup> Fuller, E. (2004) Smoking, Drinking and Drug Use among Young people in England in 2004

- After their study of *Heart Disease* the number of boys and girls now exercising increased significantly as did the amount of exercise they engaged with.

*I think I've realised now that I'm not exercising enough and that, even if I do exercise, it doesn't just change my appearance it changes my lifestyle as well.*

*I've been trying to get into a routine ... my friend just said do you want to go biking, and I said all right then, and so we felt lots better and so we've kept on doing it ... actually makes me feel better, a lot better, yes. And I will stick with that, probably, yes... Probably three or four times a week.*

- Their study of the MSoH resources had a significant impact on students' views of an appropriate diet. After implementation the major changes to diet made or planned by students were: reducing carbohydrate intake, particularly for boys; eating more regularly including making it a habit to eat breakfast; and eating five portions of fresh fruit or vegetables a day.

*... the types of food you should eat, like not eating fatty or fast foods but eating like the right stuff ... and making sure that you eat five portions of vegetables or fruit. It's just like simple things of changing the diet a bit.*

*My diet wasn't exactly really good, I snacked a lot and I didn't eat breakfast. But then like obviously watching the videos and doing the worksheets, I've now actually started eating breakfast and I don't snack as much as I did... having breakfast... I don't feel hungry so I can concentrate more on my work.*

### **Impact on students' learning about health**

- Learning outcomes on science and personal health content were very positive. The overall average score on pre- and post-tests rose from 47% to 60% - a very significant improvement in understanding for both boys and girls. The areas of significant change included understanding of the risk factors related to heart disease; understanding that heart and circulatory disease is the major cause of death and that more women die of heart disease than cancer; and increased understanding of the procedures used to detect heart disease e.g. angiograms.
- 80% of students reported that they had learned a lot about heart disease in general and in particular about the lifestyle factors that cause or contribute to heart disease and how to take account of these. They also reported high levels of learning about the structure and function of the heart.
- There were significant shifts in students' understanding of their personal responsibility for their health and how to take this responsibility. The numbers believing that their health depended on their choices increased significantly.

*I believe it's not what your friends and family do, it's about you, you've got the choice. You've got the decision to do what you want to do.*

*[Avoid] smoking, bad diet, like loads of fatty foods and fried foods and takeaways. Maybe not enough exercise because you're not working your heart muscle, so it isn't getting stronger.*

*Probably to think more before you might take these actions. We looked at evidence that scientists have got and then think if you're going to do it or not. Like if you're thinking of smoking, not to do it because your mates are doing it but, because you want do it, but look at the evidence because it just shows that most people who smoke do get heart disease, it might change their point of view.*

- After the implementation there were improvements in students' understanding of how and when it is appropriate to access first line health services. The number of students reporting that they knew when it was appropriate to consult a pharmacist rather than a GP, and when it was appropriate to contact NHS Direct, increased significantly.
- The MSoH resources had a significant impact on students' career awareness and motivation to study courses for a career in the health sector. The proportion of students intending to study biology, chemistry and/or a health-related subject at GCE AS level increased by 20%, 25% and 21% respectively.

## **Recommendations**

The Making Sense of Health resources and professional development have been very well received by teachers who overwhelmingly report that they need more of this type of resource. The evidence so far suggests that either in a science or a PSHE context the MSoH resources amply meet their aims. They are effective in increasing students' motivation to engage with science, to pursue health related careers and importantly to begin to make the small, sustainable changes in behaviour that will lead to long-term health benefits. Students appreciated that their current and future health is strongly influenced by the lifestyle choices they make, representing a significant shift in their understanding of where the locus of responsibility for health lies. Learning of this nature represents a profound change in students' perception of these issues.

- 1. The success of the trial to date indicates that MSoH should be made more widely available with further professional development to extend its impact. The benefits in terms of the long term health of the population and the ability of individuals to make informed decisions about health and how to use the national health services suggest that further investment is justified.**
- 2. The impact of the resources, indicate that the MSoH approach to the teaching and learning about health issues and the health services is very successful and should be further exploited to extend the coverage of health issues at Key Stage 4 beyond the current three topics.**
- 3. The MSoH resources meet the aims of the PSHE curriculum, the science curriculum and the Citizenship curriculum in respect of the specific learning objectives targeted in the KS4 resources. The evidence so far suggests that the resources would be more effective in achieving their aims if used in an integrated way across the curriculum. To ensure this integration curriculum policy needs to recognise health education as a core part of the national curriculum and its assessment.**

