



Policy statement

Emergency Life Support

Introduction

Cardiac arrest is the ultimate medical emergency, occurring when someone's heart stops pumping blood around the body and they stop breathing normally. It is estimated that there are around 60,000 out-of-hospital cardiac arrests in the UK each year.^{1,2} Of these, around 30,000 are treated by emergency medical services.³ Survival across the UK is variable, with between 2-12 per cent of these people surviving to be discharged from hospital depending on where the arrest takes place.⁴ Bystander action in these cases when every second counts can be the difference between life and death.

Policy statement

The skills of emergency life support (ELS) are simple and can save lives. Cardiopulmonary resuscitation (CPR) is vital in cases of cardiac arrest when it only takes a few minutes for irreversible brain damage to occur.

The BHF estimates that around 1 in 7 children in secondary education in England receive training that could help them potentially save a life. We believe all young people in the UK should leave school with the knowledge of how to save a life, equipping them with vital skills in their communities. By training children in ELS we can create a new generation of lifesavers.

We are calling on:

- all UK Governments to champion the inclusion of ELS as a key development skill at all secondary schools, and ensure that suitable resources are provided for this to be taught in a structured way
- the Westminster Government to include ELS training as a mandatory part of secondary education – as part of either the basic curriculum or National Curriculum in England, and
- local authorities in Scotland to introduce ELS training within maintained schools.

¹ Ambulance Service Association. *National Cardiac Arrest Audit Report*; 2006.

² Berdowski J, Berg RA, Tijssen JG, Koster RW. Global incidences of out-of-hospital cardiac arrest and survival rates: systematic review of 67 prospective studies. *Resuscitation* 2010 Nov;81(11):1479-87. Epub 2010 Sep 9. Available at : <http://www.ncbi.nlm.nih.gov/pubmed/20828914>

³ Pell JP, Sirel JM, Marsden AK, Ford I, Walker NL, Cobbe SM. Presentation, management, and outcome of out of hospital cardiopulmonary arrest: comparison by underlying aetiology. *Heart* 2003;89:839-42. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1767789/>

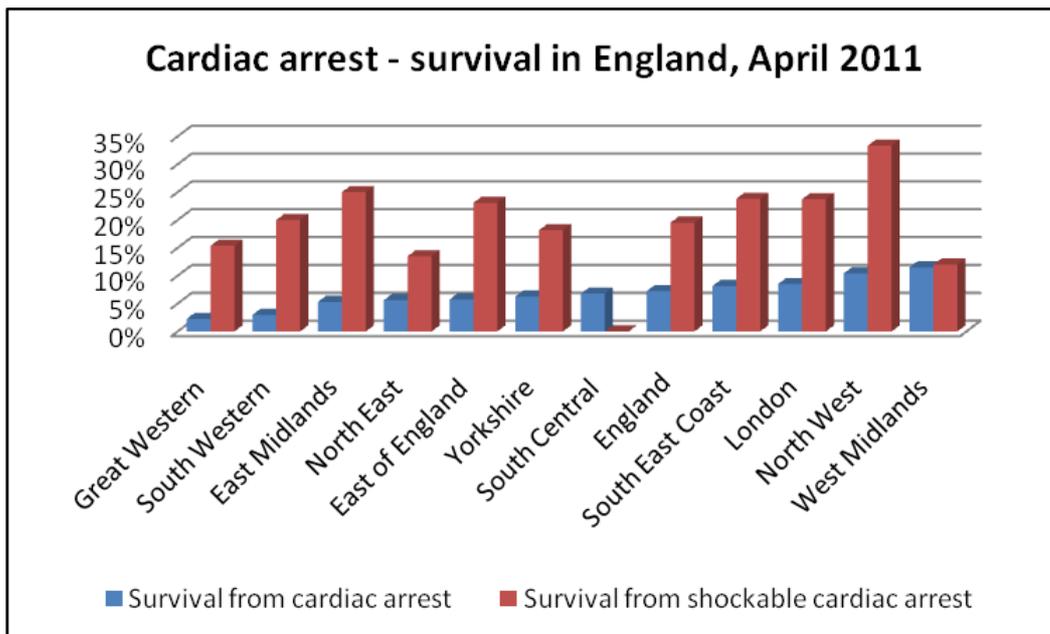
⁴ Perkins GD, Cooke MW. Variability in cardiac arrest survival: the NHS Ambulance Service Quality Indicators. *Emerg Med J* 2012 29 doi: 10.1136/emered-2011-200758. Available at: <http://emj.highwire.org/content/29/1/3.full.pdf>

Background

The skills of emergency life support (ELS) are simple and can save lives. ELS is the set of actions needed to keep someone alive until professional help arrives. It includes performing cardiopulmonary resuscitation (CPR), putting an unconscious person in the recovery position, dealing with choking, serious bleeding and helping someone who may be having a heart attack.

ELS is particularly important in cases of cardiac arrest, where the heart stops pumping blood and it only takes a few minutes for irreversible brain damage to occur. Many people who might otherwise die can be saved if someone applies ELS on the scene. For every minute that passes following a cardiac arrest before CPR chances of survival are reduced by around 10 per cent.⁵

Data on survival from cardiac arrest in the UK is fragmented and variable, though since April 2011 within England each Ambulance Trust has been required to collect data monthly on survival following cardiac arrest.⁶ This is helping to build a broader picture on cardiac arrest survival – for example, in April 2011 survival ranged from 2 to 12 per cent within England for all cardiac arrests (7 per cent on average), and was on average 20 per cent for cases of shockable cardiac arrest.^{7,8}



Importance of ELS

It is estimated by the London Ambulance Service that around two thirds of cardiac arrests that occur outside of hospital occur in the home, and that nearly half that

⁵ Nolan JP, Soar J, Zideman DA, Biarent D, Bossaert LL, Deakin C, Koster RW, Wyllie J, Böttiger B. European Resuscitation Council Guidelines for Resuscitation 2010 Section 1. Executive summary. *Resuscitation* 2010;81:1219-76. Available at: <https://www.erc.edu/index.php/docLibrary/ru/viewDoc/1195/3/>

⁶ *Technical Guidance for the 2011/12 Operating Framework*. Department of Health; 2011. Available at: http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_123660.pdf

⁷ *Ambulance Quality Indicators: Clinical Outcomes, Ambulance trusts in England – April 2011*. Department of Health; 2011. Available at:

<http://www.dh.gov.uk/en/Publicationsandstatistics/Statistics/Performanceandstatistics/AmbulanceQualityIndicator/index.htm>

⁸ The Utstein model indicates survival from cardiac arrest of presumed cardiac origin, where the arrest was bystander witnessed and the initial rhythm was ventricular fibrillation or ventricular tachycardia.

occur in public are witnessed by bystanders.⁹ In each case, any assistance that can be provided at the scene can help to keep the person alive before the emergency services arrive. In the UK the emergency services have an 8 minute target to arrive at a scene following a 999 call to a cardiac arrest. In 2010-11, of the twelve NHS organisations providing ambulance services in England, seven met or exceeded the 75 per cent standard for 8 minute response times.¹⁰

People who are trained in ELS will buy time for the casualty, until professional help arrives, which could improve the chance of a successful outcome.¹¹ A lack of blood circulation for a few minutes will lead to irreversible brain damage. However, CPR given immediately following a cardiac arrest within a community setting, buys time before using an Automated External Defibrillator, and so can triple the chance of survival for shockable out-of-hospital cardiac arrests.¹²



There is clear evidence that bystander responses can have a huge impact as part of the **chain of survival** (above). Evidence from the US shows that if an emergency ambulance is called and immediate bystander CPR is used, followed by early defibrillation and effective post-resuscitation care, survival rates following cardiac arrest can exceed 50 per cent.¹³

According to Dr Fionna Moore from the London Ambulance Service NHS Trust “the importance of these skills is that bystander life support can...extend the time available to us, as the emergency services, to reach the patient and get a successful outcome”.¹⁴ Despite the importance of ELS, too few people in the UK have the skills necessary to be able to save a life. A survey by the British Red Cross found that in the UK only 1 in 13 people feel confident that they could carry out emergency first aid.¹⁵ In contrast they estimate around 80 per cent of people in Scandinavian countries and Germany have first aid skills.¹⁶

⁹ Watson L, Verdi G. *Cardiac Arrest Annual Report 2010/11*. London: London Ambulance Service; 2011. Available at: http://www.londonambulance.nhs.uk/about_us/idoc.ashx?docid=b77b0219-5446-4136-ac0a-f936af6e1989&version=1

¹⁰ NHS Information Centre. *Ambulance Services, England 2010-11*; 2011, Available at: www.ic.nhs.uk/default.asp?SID=1308577216150

¹¹ London Assembly Health and Public Services Committee (2007): A heartbeat away – Emergency life support training in London

¹² Koster RW, Baubin MA, Bossaert LL, Cabellero A, Cassan P, Castrén M, Granja C, Handley HJ, Monsieurs KG, Perkins GD, Raffay V, Sandroni C. European Resuscitation Council Guidelines for Resuscitation 2010 Section 2: Adult basic life support and use of automated external defibrillators. *Resuscitation* 2010;81:1277-92. Available at: [http://resuscitation-guidelines.articleinmotion.com/article/S0300-9572\(10\)00435-1/aim/](http://resuscitation-guidelines.articleinmotion.com/article/S0300-9572(10)00435-1/aim/)

¹³ Cave DM, Aufderheide TP, Beeson J, Ellison A, Gregory A, Hazinski MF, Hiratzka LF, Lurie KG, Morrison LJ, Mosesso VN Jr, Nadkarni V, Potts J, Samson RA, Sayre MR, Schexnayder SM. Importance and implementation of training in cardiopulmonary resuscitation and automated external defibrillation in schools: A science advisory from the American Heart Association. *Circulation* 2011 Feb 15;123(6):691-706. Epub 2011 Jan 10. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/21220728>

¹⁴ London Assembly Health and Public Services Committee. *A heartbeat away – Emergency life support training in London*; 2007. Available at: <http://legacy.london.gov.uk/assembly/reports/health/els-report.pdf>

¹⁵ Many 'lacking first aid skills'. *BBC Online*; 2009. Available at: <http://news.bbc.co.uk/1/hi/health/8246912.stm>

¹⁶ Call for first aid in curriculum. *BBC Online*; 2009. Available at: <http://news.bbc.co.uk/1/hi/uk/7929751.stm>

Research by St John Ambulance found that despite a child being far more likely to suffer a major injury than an adult, 69 per cent of UK children would not know how to treat an injury when faced with the situation.¹⁷ The BHF's own research has also found that nearly three quarters of the UK are not trained in CPR.¹⁸

Heartstart

Since 1996, the BHF has operated the Heartstart programme, helping to train children in ELS skills. To date, Heartstart has successfully trained over 2.9 million people in ELS skills, of which over 1.1 million are children. We provide training for teachers to then train children at their schools, in addition to resources required for successful ELS training.

Heartstart is also adopted within formal regional programmes in many areas of the UK. For example, within London, the Saving Londoners Lives project taught ELS within 159 schools in London in 2008/09, training an average of 104 pupils per school.¹⁹

In Scotland, Glasgow City Council launched a programme in 2009 aiming to train all secondary school pupils within Glasgow in ELS. Working in partnership with the BHF, with support from Scottish Ambulance Service and St Andrew's First Aid, the council aims to train around 11,000 children in ELS skills each year.

In Northern Ireland the community resuscitation team in the Northern Health & Social Care Trust in 2009 trained over 500 teachers in 235 schools in partnership with the North Eastern education and Library Board. These teachers in turn have trained around 15,000 children using the Heartstart programme.

Benefits of teaching ELS to children

Children are often present at accidents and emergencies. If properly trained they can be as effective as adults in administering ELS, helping to prevent disability and save lives.²⁰ Children aged 10 and above can learn the full range of ELS including CPR, with those younger able to learn many of the skills too.²¹ Those children that are too young to compress the chest adequately are still able to learn the technique adequately, which can then be effectively used as they develop.²² Research has also shown that skill retention among those children taught ELS is good.²³

The BHF has found that a significant number of children taught these lifesaving skills have had to use them in practice. Around one in five schools registered with Heartstart reported in 2008 that students have used ELS skills in a

¹⁷ Tickle L. First aid for children is not just a sticking plaster. *Guardian Online*; 2009. Available at: <http://www.guardian.co.uk/education/2009/jul/28/childrens-services-first-aid>

¹⁸ British Heart Foundation. CPR training research. EdComs; 2006.

¹⁹ Smith M. *Report covering January – December 2009*. Saving Londoners Lives; 2010.

²⁰ Thurston M, May S. Emergency life support training for school children. Exploring local implementation and outcomes of the Heartstart UK School Programme within the context of the National Healthy School Standard. Centre for Public Health Research, University of Chester; 2007. Available at: <http://chesterrep.openrepository.com/cdr/handle/10034/7901?mode=full>

²¹ Lester C, Donnelly P, Weston C, Morgan M. Teaching schoolchildren cardiopulmonary resuscitation. *Resuscitation* 1996 Feb;31(1):33-8. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/8701107>

²² Jones I, Whitfield R, Colquhoun M, Chamberlain D, Vetter N, Newcombe R. At what age can schoolchildren provide effective chest compressions? A prospective observational study from the Heartstart UK schools training programme. *BMJ* 2007 Jun 9;334(7605):1201. Epub 2007 Apr 27. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/17468118>

²³ Fleischhackl R, Nuernberger A, Sterz F, Schoenberg C, Urso T, Habart T, Mittlboeck M, Chandra-Strobos N. School children sufficiently apply life supporting first aid: a prospective investigation. *Crit Care* 2009; 13(4): R127. Published online 2009 July 31. doi: 10.1186/cc7984. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2750181/>

real life situation, with on average three students in each of these schools having done so.²⁴

We have also seen first-hand that children enjoy and value this training. For example, a recent review of the BHF's Heartstart programme in Northern Ireland found that 98 per cent of the children taught enjoyed the training, and 67 per cent had shared what they had learnt with family and friends, indicating this may be an effective way of reaching the wider community.²⁵ Six per cent said they had had to use the skills they had been taught, while 97 per cent felt they could cope better with an emergency. Above all, 99.7 per cent thought it was a good idea to have ELS training in their school. One child trained in ELS commented that it was useful "because we could be faced with situations where our training could make a difference", while another commented, "I think everyone should have some sort of education on how to save someone's life as it could [be needed] anywhere at any time".

The importance of training children in ELS skills has led some to suggest that ELS training in schools would be the most significant factor in making a positive impact on survival rates from heart attacks.²⁶ In 1992 the European Resuscitation Council stated that schools should include the teaching of ELS in their curricula.

After initial training or retraining, ELS skills can deteriorate nominally but many people remain competent for up to 1 year.²⁷ This highlights the importance of ensuring that this is taught regularly to children. A means of ensuring ELS training is provided in a structured, consistent way is to incorporate it into a school's curriculum. Research has indicated that training programmes designed and taught as a part of the curriculum would have a significant impact on public health.²⁸

The curriculum in England

Within secondary education, the Westminster Government can influence what is taught via the **National Curriculum** and the **basic curriculum**. The National Curriculum prescribes a collection of subjects that must be taught at maintained schools, such as English, Maths and Science. The basic curriculum places a requirement on maintained schools to provide teaching of particular knowledge, but flexibility is allowed on how this is delivered within schools. For example, schools are required to provide 'a programme of careers education'.²⁹

Since September 2008 first aid training, which covers many of the parts of ELS, has been included at some English secondary schools as part of Personal, Social, Health and Economic Education (PSHE). PSHE does not have any statutory basis and is not part of the National Curriculum – schools have therefore not been required to teach it. First aid has featured as part of the 'risk' concept of PSHE, with 'resuscitation techniques' a suggestion within its guidance notes. There is no requirement for those schools teaching PSHE to include the first aid component, and those that do are not required to include CPR, one of the key components of ELS.

²⁴ British Heart Foundation. *Setting up a Heartstart UK Schools Programme*; 2008.

²⁵ North Eastern Education and Library Board. *Heartstart Schools Programme Audit Report 2007/2008*; 2009.

²⁶ Scottish Health Service Advisory Council. *Report on Cardiopulmonary Resuscitation*; 1993.

²⁷ Christenson J, Nafziger S, Compton S, Vijayaraghavan K, Slater B, Ledingham R, Powell J, McBurnie MA. The effect of time on CPR and automated external defibrillator skills in the Public Access Defibrillation Trial. *Resuscitation*. 2007 Jul;74(1):52-62. Epub 2007 Feb 14. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/17303309>

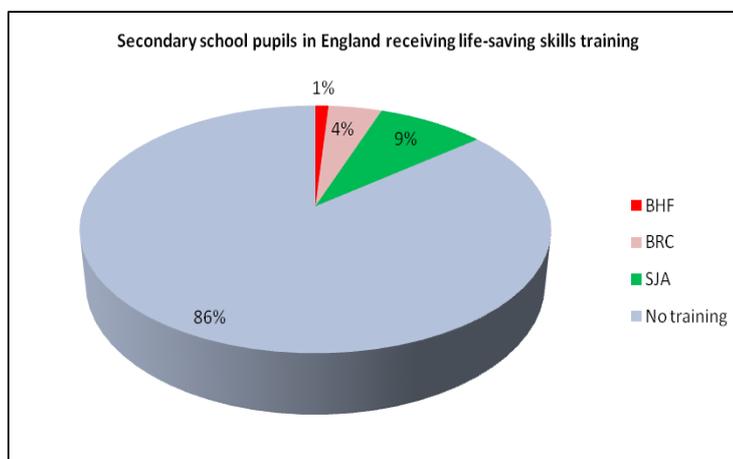
²⁸ Connolly M, Toner P, Connolly D, McCluskey DR. The 'ABC for life' programme – Teaching basic life support in schools. *Resuscitation* 2007 Feb;72(2):270-9. Epub 2006 Nov 28. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/17134814>

²⁹ *Education Act 1997, part VII*. Available at:

http://www.legislation.gov.uk/ukpga/1997/44/pdfs/ukpga_19970044_en.pdf

There are no available figures on the proportion of schools that include first aid training within their PSHE teaching. A report from Ofsted in 2010 said that many of the secondary schools visited failed to provide discrete curriculum time for PSHE education, and that the teaching lacked continuity and did not cover some aspects of the subject in sufficient depth.³⁰ There are also several other opportunities within the curriculum that provide a suitable environment where ELS could be taught. These include Science, Physical Education, Citizenship, and English.

Schools currently opt in to the life-saving skills programmes offered by the BHF, St John Ambulance, and the British Red Cross. Despite the clear benefits of training children in these skills and the opportunities on the current curriculum estimates suggest as few as 14 per cent of secondary school pupils in England are receiving this training.³¹



For appropriate Heartstart training, pupils need as little as two hours of teaching over the course of the school year, which we estimate to be just 0.2 per cent of annual teaching time a child receives.³²

Devolved curricula

In **Wales** ELS is included within Personal and Social Education (PSE). PSE forms part of the basic curriculum which must by law be taught alongside the national curriculum for all registered pupils aged 5 to 16 at maintained schools. Basic emergency first aid is included at Key Stage 3 and 4 amongst the practical skills that schools can choose to deliver through their PSE provision, but only as one example to be used to meet one requirement of the subject.³³ Decisions on the precise content and model of delivery of a school PSE programme lie with head teachers and their governors, working with local authorities and other local partners.

Scotland does not have a mandatory national curriculum. The national Curriculum for Excellence³⁴ has Health and Wellbeing as one of its eight areas. Within this, the ability to respond in a range of emergency situations is a stated skill to be taught.³⁵ However, education authorities decide themselves what specifically to teach to match the criteria of the framework. An evaluation found that a quarter of the Heartstart affiliated schools in Scotland had not managed to implement ELS mainly

³⁰ Ofsted. *Personal, social, health and economic education in schools*. Available at:

<http://www.ofsted.gov.uk/resources/personal-social-health-and-economic-education-schools>

³¹ BHF estimate based on data on number of pupils trained, provided by British Red Cross and St John Ambulance. The proportion is based on the total number of secondary school pupils from the Department for Education (Schools, Pupils and their Characteristics, January 2011)

³² Figures based on 25 hours of lessons per week for a 38 week school year

³³ Department for Children, Education, Lifelong Learning and Skills. *Personal and social education framework for 7 to 19-year-olds in Wales*. Welsh Assembly Government; 2008. Available at:

<http://wales.gov.uk/topics/educationandskills/schoolshome/curriculuminwales/arevisedcurriculumforwales/pse/?lang=en>

³⁴ <http://www.ltscotland.org.uk/curriculumforexcellence/index.asp>

³⁵ http://www.ltscotland.org.uk/Images/health_wellbeing_experiences_outcomes_tcm4-540031.pdf

due to time constraints from the curriculum, with nearly all teachers surveyed having concerns about fitting it into an already full curriculum.³⁶

Within **Northern Ireland**, the Revised Curriculum provides opportunities for young people to develop an awareness of emergency first aid procedures through the new statutory area of Personal Development at both primary and secondary levels. In addition, within the Service Framework for Cardiovascular Health and Wellbeing, standard 9 states that 'Health and social care professionals should work with schools, workplaces and communities to raise awareness of and access to emergency life support (ELS) skills'.³⁷

International comparison

Within Europe, countries including France, Denmark and Norway already have ELS as a mandatory part of their school curricula.³⁸ In all three countries ELS is taught in a staged approach according to the child's age and capabilities. In Denmark for example basic first aid principles are taught to primary school children (6 – 8 years of age), secondary school children (8- 11 years of age) are taught expanded first aid skills including dealing with bleeding and from 12 to 15 years pupils are taught additional ELS skills including CPR. Within some parts of Norway, such as Stavanger, survival from shockable cardiac arrest is as high as 52 per cent.³⁹

Within Australia, education is devolved to state level. Several states have already included basic CPR and ELS training as mandatory requirements in their school curricula. In 2004 in Queensland for example, the State Government announced an \$11.1 million Safe and Healthy Schools Policy in which \$1 million was provided for 'training the lifesavers of tomorrow'. Since 2005 state schools have been required to provide CPR skills training to all students before leaving Year 12.⁴⁰

In the USA, CPR has been taught in Seattle for over 30 years within PE lessons at all schools funded by the city government. Over half of the population of Seattle and surrounding King County are now trained in CPR, and survival rates for witnessed shockable cardiac arrests were very high at 49 per cent in 2010.⁴¹

Research by the American Heart Association (AHA) from January 2011 has also shown that 36 of the 50 US State Governments have passed legislation, curriculum content standards, or frameworks referring to teaching CPR in schools.¹³ The AHA has recommended that CPR be required as a condition of graduation from secondary school in all US states.

Implementing ELS training in schools

³⁶ MacGregor A. *Evaluation of the Heartstart UK Scottish Schools initiative for the British Heart Foundation*. BHF Publication; 2001.

³⁷ Department of Health, Social Services and Public Safety. *Service Framework for Cardiovascular Health and Wellbeing*; 2009. Available at: http://www.dhsspsni.gov.uk/service_framework_for_cardiovascular_health_and_wellbeing.pdf

³⁸ British Red Cross. *Life. Live it: The case for first aid education in UK schools*; 2006.

³⁹ Lindner TW, Søreide E, Nilsen OB, Torunn MW, Lossius HM. Good outcome in every fourth resuscitation attempt is achievable: An Utstein template report from the Stavanger region. *Resuscitation* 2011 Dec;82(12):1508-13. Epub 2011 Jun 24. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/21752524>

⁴⁰ <http://education.qld.gov.au/schools/healthy/cpr.html>

⁴¹ Division of Emergency Medical Services, Seattle and King County. *Annual Report to the King County Council*; 2011. Available at: <http://www.kingcounty.gov/healthservices/health/~media/health/publichealth/documents/ems/2011AnnualReport.ashx>

The BHF's own experience through the Heartstart programme provides one model that can be applied at regional or national level within the UK. Training supervisors with resuscitation and teaching experience to initially train teachers would provide training to ideally three teachers per school. In order to maintain quality of training, those trained initially would then require refresher training sessions annually. These can also be used to train replacement teachers in the event of staff changes in the school.

Additional costs include venue hire for the training session, which can be reduced if schools are coordinated to have their teachers trained at combined sessions, and supply cover for the teachers to attend the day-long training.

The largest consumable cost is the initial supply of resuscitation manikins. Ideally, in a class of up to 32 there should be one manikin used between two people (16 in total). Schools should have both standard resuscitation manikins and baby manikins. These are one-off costs for the lifetime of the manikin, with annual costs to maintain the equipment.

Per school, we estimate that this costs around £2,200 each year, which takes into account the appropriate learning materials required in a programme to aid teaching these life-saving skills to pupils, in addition to general administration and monitoring costs.

Public support

There is evidence to suggest that the widespread teaching of ELS skills at UK schools would be a popular move among both the public and teachers. In February 2011, we commissioned research to assess the views of children, parents and teachers on the idea of making ELS a part of the curriculum to be taught to all secondary school pupils. The results showed strong support for this measure.

We commissioned research to assess the views of children, parents and teachers on the idea of making ELS a part of the curriculum to be taught to all secondary school pupils.⁴² We found:

- 86% of teachers think ELS should be part of the National Curriculum⁴³
- 78% of children want to be taught how to save someone's life in an emergency⁴⁴
- 70% of parents thought children should be taught ELS at school.⁴⁵

In addition, the BHF's petition calling for ELS to be taught in all schools and communities across the UK has received over 100,000 signatures.

Political support

In Westminster Bob Russell MP lodged a ten minute rule bill in the House of Commons in 2003 aimed at requiring first aid training to be given to children in

⁴² Research was carried out online by OnePoll in February/March 2011

⁴³ Research was carried out online by OnePoll in February 2011. Total sample size was 500 teachers

⁴⁴ Research was carried out online by OnePoll in February 2011. Total sample size was 1,000 children aged 11-15 years old

⁴⁵ Research was carried out online by OnePoll in February/March 2011. Total sample size was 2,072 parents of children aged 11-15 years old

schools as part of the National Curriculum.⁴⁶ In 2009 he lodged an Early Day Motion calling for greater first aid knowledge to be taught in schools, which was signed by 72 MPs.⁴⁷

Julie Hilling MP lodged a 10 Minute Rule Bill in the House of Commons in October 2011, calling for ELS to be taught as part of the National Curriculum.⁴⁸ This was backed by Justin Tomlinson MP and Julian Huppert MP. In addition, Anne Marie Morris MP coordinated a letter to Michael Gove in support of this in April 2012, signed by over 40 MPs.⁴⁹

In 2007, the Scottish Labour Party included a pledge within their election manifesto to support teaching first aid skills to 14-16-year-olds.

For more information, contact policy@bhf.org.uk

Case study 1: Helping children from poor backgrounds

Abbey Hill Primary & Nursery School teaches ELS to around 130 children aged 5-11 years as part of their PSHE and Healthy Schools curriculum.

The school is based in a very deprived area, with many pupils coming from single-parent families where there is no other responsible adult. The ELS training gives these children the confidence to respond to what could be a life-threatening situation.

Case study 2: Life-saving skills put into practice out of school

The Priory City of Lincoln Academy provides ELS training through the BHF's Heartstart training programme to around 140 Year 10 pupils.

Within the past year, the school has seen two incidents where this training was put to use by pupils, both following road traffic accidents. According to the Academy, those pupils training in ELS were instrumental in delivering an appropriate response to those injured, and their actions were vital to the recovery of the casualties.

⁴⁶ http://www.bobrussell.org.uk/speeches/000019/first_aid_training_in_schools.html

⁴⁷ Early Day Motion 6: First Aid Education in Schools (Session 2009-10)

⁴⁸ <http://news.bbc.co.uk/1/hi/parliament/9623000/9623091.stm>

⁴⁹ <http://www.annemariemorris.co.uk/node/419>