
Schools Engagement at Cardiff School of Medicine

This report highlights an overview of the centrally coordinated schools' engagement initiatives run during academic year 2018-2019.



Introduction

At the School of Medicine, there is an enormous amount of engagement work aimed at inspiring school children across Wales, to excite them about science and the wide range of healthcare career opportunities available.

Our flagship Science in Health programme involves a team of professional engagement staff and academic staff from all levels of seniority from PhD to Professorial level. In addition to this our MEDIC Ambassador programme facilitates increased engagement with primary and secondary schools across Wales. Other engagement initiatives of members of staff and students are also supported, including

- Widening Access to Medicine Mentoring Scheme (WAMMS)
- Promoting Academic Excellence (PACE) project
- Organ Donation Teaching project.

Critically, the Engagement team is the key point of contact with all primary and secondary schools and colleges which has afforded the opportunity for relationships to be built across schools in Wales.

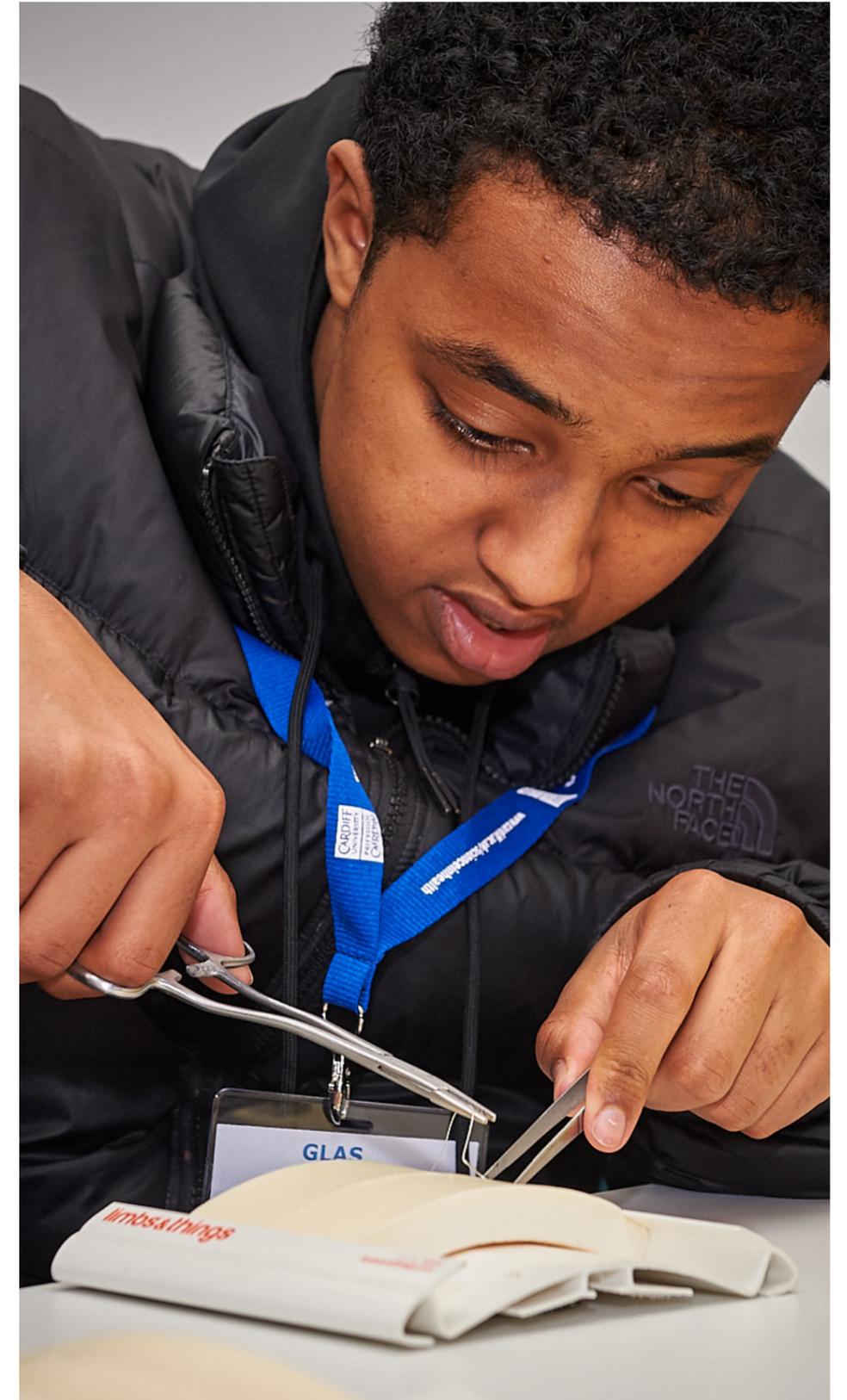
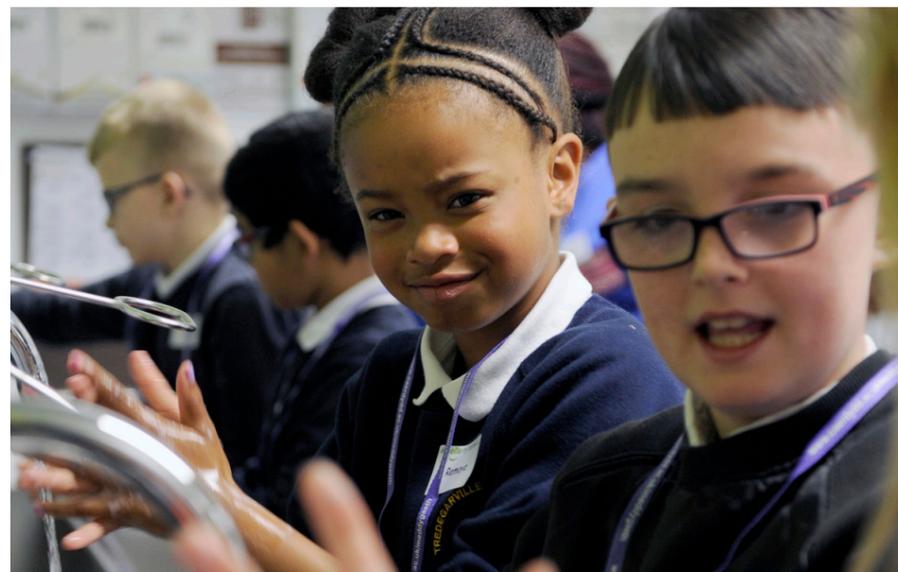
At the end of this report a table of the total number of schools that have participated in engagement activities facilitated by the School of Medicine Engagement team in academic year 2018/19 is provided. This table indicates which activities schools have engaged in, and highlights the Secondary Schools located in areas with the highest levels of deprivation according to the Welsh Index of Multiple Deprivation (WIMD).

In total, the School engaged with 9 colleges, 81 secondary schools (15 located in areas of highest deprivation), and 19 primary schools. Over 32% of schools and colleges that engaged with the School of Medicine in this academic year participated in more than one engagement activity.

Science in Health (SiH)

Throughout the year the following Science in Health activity takes place:

- Science in Health LIVE (March)
- Life Sciences Challenge quiz (February – September)
- Laboratory work experience scheme (June and July)
- Public lecture series (October – March).



Science in Health Live 2019

2019 saw the 25th anniversary of this annual event that involves six schools within Cardiff University (Medicine, Dentistry, Healthcare Sciences, Optometry and Vision Sciences, Biosciences and Pharmacy and Pharmaceutical Sciences), and is one of the UK's largest interactive science events for sixth formers.

For the 25th anniversary event, a Teacher CPD session was run twice on each day, for accompanying teachers, which was tailored to areas of relevance to science teachers. This was well received by the teachers and will become a regular feature in future years.

Pupils spend one day at the School of Medicine on the site of the University Hospital of Wales. Their day includes:

- laboratory tours
- interactive exhibition areas
- plenary talks
- short talks on various hot topics
- final closing career session on 'Where can science lead you?' where interactive live polling is used to positively encourage pupils to ask career-related questions.

Reach:

- Over 800 Year 12 pupils from across Wales and the border counties
- 30-50 Teachers accompanying the pupils

Impact:

- Over the years, it has become clear that Science in Health LIVE, alongside other Science in Health initiatives is having a positive impact on influencing career choices and supporting pupils to realise those choices in terms of gaining university entrance.
- Provides an established and successful centrally coordinated engagement event to allow academic members of staff from across the College of Biomedical Life Sciences to engage with sixth form pupils on an annual basis.
- Provides pupils with a first and unique opportunity to visit the Heath Park site in a guided and safe way, to gain an invaluable insight into what goes on within the School of Medicine and University life in general.

These are some of the comments following the event:

"The event was hands on, friendly and well organised"

"Liked everything about the event. A big thank you to all involved"

"Students on panel were excellent"

"Very informative for Yr12 students with regards to applications to Cardiff"

"The opening speech given by Professor Borysiewicz was extremely interesting and has motivated me to pursue cancer research in some form"

"As always the quality of presentations was excellent"

"Lots of helpful advice, handouts and fun exhibits and I liked getting answers for our questions by current students"

"I am now more informed of the opportunities available"

"I liked that a variety of courses and information was provided in considerable detail"

"I liked the hands-on aspect of the exhibits"

"Every stall was interesting and friendly people"

"I understand a lot more about medicine"

"Listening to answers from current students in the text poll gave good reasons for applying to Cardiff"

"Gave me real people to learn from"

"I liked the sheer variety of information available"

"I liked the tour as it was informative and inspiring"

"I liked the anonymous questioning"

"I liked the lecturers, the atmosphere and the information provided"

"Provided more of an insight into university life"

"I liked the event because the people were so friendly"

"It has reminded me that there are other career paths after medicine and around it"



Science in Health – Life Sciences Challenge

The Life Sciences Challenge/Her Gwyddorau Bywyd is a national inter-school quiz competition, delivered in Welsh and English, aimed at Year 10/11 pupils. Every year, a new quiz is designed and delivered by PhD students, early career researchers and staff.

The researchers who take part in the Life Sciences Challenge quiz are passionate about science and wish to share their enthusiasm for the natural world with pupils in Wales.

The event gives pupils the opportunity to meet young scientists working locally, and tests pupils' ability to analyse data and apply logic and learned knowledge to unfamiliar concepts, helping them to understand the living world.

Reach:

- 128 teams (512 pupils) from 50 schools across Wales entered the quiz
- Teachers and the families of pupils who attend the quiz finals

Impact:

- Raising awareness and inspiring pupils to consider the possibilities of careers in science and medicine
- Increasing understanding of the role of science in health
- Promoting the work and research of the University in the science and healthcare disciplines
- School pupils networking with other Schools

- Recognises and awards achievement in maths and science

The 2018 winners of the English quiz were St Cyres School. Nicholas Alford, Deputy Director of Faculty of Science at St Cyres, said:

"We are very grateful for the opportunities you provide for our students. The LSC has generated a real buzz around the school as we have progressed to the final. Science in Health Live has inspired and germinated many careers in research and medicine and the work experience weeks you offer are incredibly enriching; allowing our students' university applications to stand out. Thank you."



Science in Health Work Experience Programme

This scheme attracts students who are interested in pursuing a broad range of undergraduate courses such as biochemistry, genetics and medicine, as well as those considering a career as a research scientist, GP, hospital consultant, pharmacist or working in industry.

Students have a range of experiences working in teams with several different investigators and their research groups. Students have opportunities to experience cutting edge-technologies like molecular biology, flow cytometry, DNA sequencing, egg micro-injection, virology, mass spectrometry, X-ray crystallography, pharmacology and cellular immunology with research groups from across the school. This gives them a far broader awareness of career opportunities.

Reach:

- In 2019, applications were received from 68 pupils
- 36 pupils attended a one-week work experience programme (9 pupils per week over 4 weeks)

Impact:

- Raising awareness of the range of Cardiff University programmes available
- Providing a greater understanding of the range of career opportunities as a result of obtaining a degree in science or medicine
- Opportunity for research groups to engage sixth form pupils in the research work that is being done at Cardiff University

- Opportunity for PhD students to develop and practise their communication and engagement skills.

Feedback from the students on the 2019 work experience scheme include:

"The highlight of the week has been learning about genetic diseases as it opened my eyes to new areas of biology I hadn't considered previously"

"I'm now considering biomedical science as a possible career path"

"It's allowed me to gain an insight to the research side of medicine, which will be extremely useful for me and definitely something I could discuss during my interviews"

"The potential for intercalation at Cardiff is attractive to me especially when considering the impressive research currently at Cardiff"

"I have gained contacts with peers from different backgrounds"

"It has definitely made me realise that this is the kind of work I want to go into and has made me aware of the many different ways you can get into this sector"



Science in Health Public Lectures

The highly successful Science in Health Public Lecture Series is now in its seventeenth year and continues to attract a diverse audience of interested individuals.

The lectures have three main aims – to open up areas of concern in health care, to present new research on health issues to the public and to inspire the next generation of life science researchers.

The lectures are held monthly on Thursday evenings from October to March. They are recorded and available on the Science in Health website pages of Cardiff University (www.cardiff.ac.uk/scienceinhealth). Topics from the 2018- 2019 series include:

‘Why do my joints hurt and what can I do about it?’

‘Antibiotic Resistance: The Good, The Bad and The Ugly’

‘The inflamed mind: a radical new approach to depression’

‘Dementia – the One Stop Guide.’

Reach:

- Between 150-200 members of the public, secondary school pupils and professionals attend each lecture

Impact:

- Provides information on public health and current medical research and opportunities to engage experts and ask questions
- Provides a broad perspective for students considering a career in a variety of areas of healthcare and biomedicine.

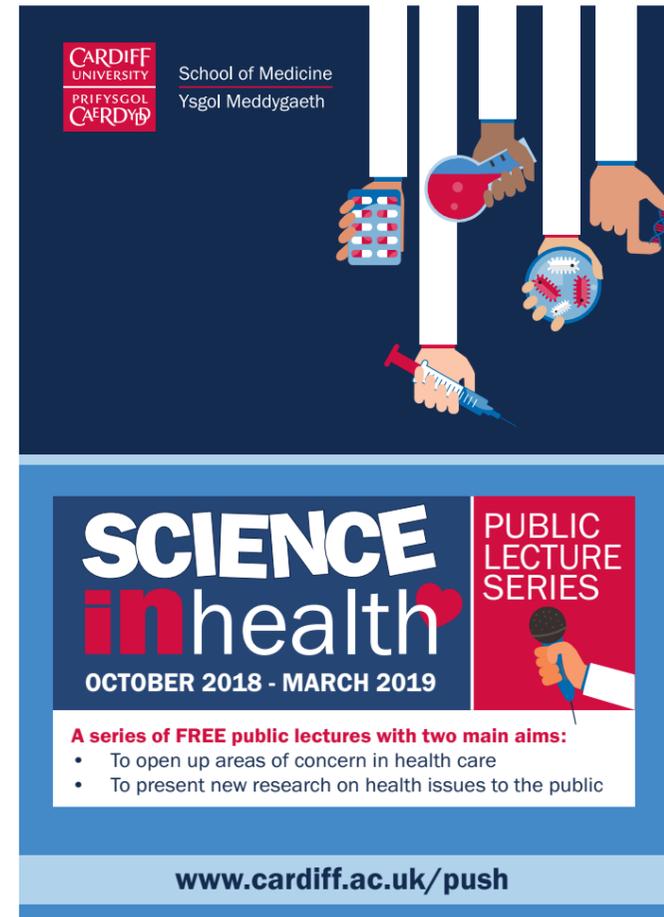
Feedback from the lectures include:

“A wonderful opportunity to learn and delve more into the world of scientific research. A science student’s best place to be and learn.”

“Interesting. Inspiring. Fantastic introduction to lectures in science for my daughters with plenty of accessible points for further thought.”

“They are fascinating on a personal and professional level.”

“Incredibly informative and easily accessible for the general public on popular topics.”



MEDIC Ambassadors

At the start of the academic year 2017-18, the School of Medicine launched a MEDIC Ambassadors scheme, with two main purposes:

- To enable expansion of engagement activity with schools and communities across Wales, providing additional support to pupils and teachers, enhancing the curriculum and raising aspirations in science and health.
- To enhance mentoring, pedagogy, communication and employability skills in staff and students.

As of 2019 more than 130 students from across the years of study have now registered to become Ambassadors.

Reach:

During the academic year 2018 - 2019 participation was as follows:

Secondary schools and colleges

1. Skills Cymru Careers Event, Llandudno
2. School Health Fair, Fitzalan High School
3. Mock MMI session, Coleg y Cymoedd
4. Cyfarthfa High Careers Convention

Primary schools

5. Inspiring Futures, Tredegarville Primary
6. School Holiday Enrichment Programme (SHEP), Severn Primary

Public Events

7. Tafwyl Festival

15 MEDIC Ambassadors have taken part in the above events (some on multiple occasions).

Impact:

The impacts for university staff, alumni and students are:

- Development of employability skills
- Enhanced communication skills
- Supporting the National Curriculum
- Inspiring future scientists, medics and healthcare professionals

- Supporting the recruitment strategies of CU
- Establishing relationships with schools to make learning fun and engaging.

The impact for schools and teachers include

- Support in teaching the curriculum
- Enhanced learning, backed up with “real life” examples
- Inspiring teachers and pupils and raising career aspirations
- Long term partnership with Cardiff University School of Medicine.

Feedback from MEDIC Ambassadors who have participated to date include:

“It has absolutely enhanced my skills. It was different explaining concepts to a much younger audience. It is improved my teaching and communication skills”.

“At the end of my talk, I did a quiz to gauge how much the students retained from the talk. I found 99% of the students answered correctly to all the questions, showing they were paying attention and understood the information”.

The sessions helped me to engage with younger pupils and educate them about the health implications of smoking, as well as refreshing my knowledge on basic life support. It improved my confidence in teaching and communicating”.

Teacher feedback has been equally positive

When asked if it was a worthwhile activity for them and their pupils, we received these responses:

“Definitely. I learned different things as well as the children! It linked in with our ‘All About Me’ topic perfectly and enabled the children to have real life experiences. Lots of them now want to become doctors!”

Widening Access to Medicine Mentoring Scheme (WAMMS)

The academic year 2018-19 has built upon the progress made during the first year of the scheme, which aims to increase the number of Welsh domiciled pupils from lower socio-economic backgrounds successfully applying to medical students.

Medical students have visited schools across Wales to provide support and advice on the application process.

Reach:

- During the 2018-19 academic year 50 school visits were made, covering around 500 pupils.

Impact:

- Increased visibility of undergraduate medical students in Schools across Wales
- Recognition of the value of peer support and mentoring to Welsh pupils considering medicine
- Opportunity for undergraduate medical students to develop engagement and communication skills
- Support for the Welsh Government priority to increase the numbers of Welsh domiciled pupils applying to study medicine

One 6th form student who benefited from WAMMS and is now studying the MBBCh at Cardiff School of Medicine said:

"The medical student that advised me was really helpful when it came to writing my personal statement. She also helped me prepare for the interview, in particular helping me practice delivering confident and well-structured answers. I am the first in my family to be going to university, so the support WAMMS has given me, along with the excellent support from the school, was really important to me."



Organ Donation Teaching Pilot Project

Working in partnership with the NHS Blood and Transplant team, medical students have been delivering teaching sessions on organ donation to year 6 and year 8 pupils across South East Wales.

This pilot project aimed to stimulate conversations and debate about organ and tissue donation among children, and to encourage them to have conversations about their wishes and to learn about the wishes of their family members. The sessions have received positive feedback and the project is now being evaluated, with a view to rolling it out across Wales.

Reach:

- More than 25 medical students visited 18 primary and 6 secondary schools in South Wales.

Impact:

- Increased discussion of the importance of organ donation amongst school pupils and their families
- Provision of a safe and informed environment to start discussion on a sensitive subject, with information specifically generated with the target pupils in mind
- Opportunity for undergraduate medical students to develop engagement and communication skills
- Increased visibility of undergraduate medical students in Schools across Wales

Positive feedback was received from teachers and pupils:

"We had a very positive response from both staff supervising the workshop and pupils participating. It was incredibly worthwhile especially due to the nature of the subject - very emotive. Staff supervising stated that it was one of the best / most worthwhile sessions they had been involved in".

"Children found the lesson really interesting and were able to share facts they had learned. Lots of the children were able to talk about organ donation after the lesson and discussed it with their families".

Feedback from the medical students included:

"The children were really engaged, and I think they enjoyed doing something a bit different. I really enjoyed teaching and answering the children's questions and thought it was a good way to use my experiences to help them. I think the session helped with my public speaking and my confidence. It also allowed me to practice adapting my vocabulary and presentation to a younger audience".

"This teaching allowed us to learn what level was appropriate for the age group. For example, the students when asked to name organs knew what the spleen was, which was above what we expected 8 year olds to know so we added an bit of extra detail, which interested them and allowed them to ask more questions".



Promoting Academic Excellence (PACE)

This pilot project was set up by lecturers within the Centre for Medical Education to inspire school pupils to consider applying to University.

From November 2018 thirty medical students ran weekly sessions for over twenty Year 9 pupils at Fitzalan High School, to enhance the teaching and learning of the science curriculum. This concluded in June 2019, when the pupils involved in the project attended a specially designed summer school held at the School of Medicine. The key aim of this day was to start to give the pupils a feeling of belonging and show that university is not an unattainable aspiration. The group were given a taste of what University teaching and learning is about.

The group were given the opportunity to learn practical skills, including hands-on exercises to do when someone is having a heart attack. They spent time in the Clinical Skills suite to contextualise and embed the new knowledge they had gained. The day ended with pupil presentations, for which prizes were awarded.

Reach:

- 20 Year 9 Fitzalan pupils were tutored by 30 medical students during the eight month project.

Impact:

- School pupils have enjoyed “learning with friends” and “meeting the university students and learning about the world of medicine.”
- Rewarding experience for participating medical students, who have the opportunity to enhance their teaching and communication skills.
- Opportunity for a cohort of year 9 and 10 Fitzalan pupils to attend a two-day summer school organised by participating medical students on the Heath Park site. During this summer school pupils enjoyed a case study and practical exercises. This visit provided pupils with an additional opportunity to meet medical students in their learning environment and get a real taste of what it is like to be a student. All pupils attending this summer school said that they would consider applying for university. 19 of the 24 pupils attending the summer school said that they would consider a career in medicine.



Table of Schools Engagement Activity Across Wales 2018-19

School Name	Local Authority	Sector	Work Exp	LSC	HGB	SIHL	MA	WAMMS	PACE	OD
Ysgol Syr Thomas Jones	Isle of Anglesey	Secondary			X					
Ysgol Gyfun Llangefni	Isle of Anglesey	Secondary		X	X					
Ysgol Dyffryn Ogwen Bethesda	Gwynedd	Secondary						X		
Ysgol Botwnnog	Gwynedd	Secondary		X	X					
Ysgol Tryfan	Gwynedd	Secondary			X					
Ysgol Glan Y Mor	Gwynedd	Secondary		X						
Ysgol John Bright	Conwy	Secondary		X						
Ysgol Dyffryn Conwy	Conwy	Secondary						X		
Ysgol Uwchradd Glan Clwyd	Denbighshire	Secondary						X		
Ysgol Brynhyfryd	Denbighshire	Secondary		X	X			X		
St Brigid's	Denbighshire	Secondary		X						
Coleg Cambria	Flintshire	College						X		
Ysgol Clywedog	Wrexham	Secondary		X						
St Joseph's Catholic And Anglican High	Wrexham	Secondary		X						
The Maelor School	Wrexham	Secondary						X		
Ysgol Uwchradd Caereinion High School	Powys	Secondary						X		
Newtown High School	Powys	Secondary		X						
Ysgol Calon Cymru	Powys	Secondary	X	X	X	X		X		
Ysgol Maesydderwen*	Powys	Secondary				X				
Brecon High School	Powys	Secondary						X		
Ysgol Uwchradd Aberteifi	Ceredigion	Secondary		X						
Ysgol Gyfun Penweddig	Ceredigion	Secondary		X	X					
Pembrokeshire College	Pembrokeshire	College				X				
Ysgol Penrhyn Dewi (prev Dewi Sant)	Pembrokeshire	Secondary		X						
Haverfordwest High VC School	Pembrokeshire	Secondary						X		
Ysgol y Preseli	Pembrokeshire	Secondary		X	X					
Coleg Sir Gâr	Carmarthenshire	College								
Ysgol Dyffryn Aman	Carmarthenshire	Secondary						X		
Coedcae School	Carmarthenshire	Secondary		X						
Dyffryn Taf	Carmarthenshire	Secondary	X							
Ysgol Gyfun Y Strade	Carmarthenshire	Secondary		X						
Queen Elizabeth High School	Carmarthenshire	Secondary		X				X		
Ysgol Maes y Gwendraeth	Carmarthenshire	Secondary	X	X	X	X		X		
Ysgol Bro Dinefwr	Carmarthenshire	Secondary						X		
Gower College	Swansea	College				X				
Ysgol Gyfun Gwyr	Swansea	Secondary		X	X			X		
Bishop Vaughan School	Swansea	Secondary		X						
Ysgol Gyfun Ystalyfera Bro Dur	Neath Port Talbot	Secondary		X		X				
Penybont Sixth Form College	Bridgend	College						X		
Cynffig Comprehensive	Bridgend	Secondary				X				
Maesteg Comprehensive School	Bridgend	Secondary						X		
Brynteg School	Bridgend	Secondary	X	X		X		X		
Ysgol Gyfun Gymraeg Llangynwyd	Bridgend	Secondary			X			X		
Coleg Cymunedol Y Dderwen	Bridgend	Secondary						X		
Archbishop McGrath Catholic High School	Bridgend	Secondary				X				
Ysgol Bro Morgannwg	The Vale of Glamorgan	Secondary	X		X	X				
Cowbridge Comprehensive School	The Vale of Glamorgan	Secondary	X			X				
St Cyres Comprehensive School	The Vale of Glamorgan	Secondary		X						
Stanwell School	The Vale of Glamorgan	Secondary	X			X				
Bryncelynog Comprehensive School	Rhondda Cynon Taf	Secondary	X			X		X		X
Ysgol Gyfun Garth Olwg	Rhondda Cynon Taf	Secondary	X		X	X		X		
Tonyrefail Community School	Rhondda Cynon Taf	Secondary	X							
Treorchy Comprehensive	Rhondda Cynon Taf	Secondary				X				
Porth County Community	Rhondda Cynon Taf	Secondary		X						
Y Pant Comprehensive	Rhondda Cynon Taf	Secondary	X							
Ysgol Gyfun Rhydywaun	Rhondda Cynon Taf	Secondary			X					
Ysgol Llanhari	Rhondda Cynon Taf	Secondary								X
Ysgol Gyfun Cwm Rhondda	Rhondda Cynon Taf	Secondary			X					
Bodringallt Primary School	Rhondda Cynon Taf	Primary								X
Cwmaman Primary School	Rhondda Cynon Taf	Primary								X
Pontrhondda Primary School	Rhondda Cynon Taf	Primary								X
Pontyclun Primary School	Rhondda Cynon Taf	Primary								X
Ton Pentre Primary School	Rhondda Cynon Taf	Primary								X
Trerobart Primary School	Rhondda Cynon Taf	Primary								X
Cyfarthfa High School	Merthyr Tydfil	Secondary						X		
Merthyr Tydfil College	Merthyr Tydfil	College				X				
Coleg y Cymoedd	Caerphilly	College					X			
Newbridge School	Caerphilly	Secondary		X						
Heolddu Comprehensive School	Caerphilly	Secondary	X			X		X		X

Ysgol Gyfun Cwm Rhymini	Caerphilly	Secondary				X				
St Cenydd School	Caerphilly	Secondary						X		
Lewis School Pengam	Caerphilly	Secondary		X						
Lewis Girls' Comprehensive School	Caerphilly	Secondary		X						
Idris Davies Comprehensive School,	Caerphilly	Secondary	X			X				X
Coed-y-Brain Primary School	Caerphilly	Primary								X
Cwmcarn Primary School	Caerphilly	Primary								X
Nant y Parc Primary School	Caerphilly	Primary								X
Ystrad Mynach Primary School	Caerphilly	Primary								X
Bryn Bach Primary School	Blaenau Gwent	Primary								X
Glyncoed Primary School	Blaenau Gwent	Primary								X
Croesyceiliog School	Torfaen	Secondary	X							
West Monmouth School	Torfaen	Secondary		X						
Cwmbran High School	Torfaen	Secondary	X							
Penygarn Community School	Torfaen	Primary								X
Ysgol Panteg	Torfaen	Primary								X
Monmouth Comprehensive School	Monmouthshire	Secondary	X							
King Henry VIII Comprehensive	Monmouthshire	Secondary	X			X				
Coleg Gwent	Newport	College				X		X		
Caerleon Comprehensive School	Newport	Secondary	X	X		X		X		
Llanwern High School	Newport	Secondary		X		X				
Lliswerry High School	Newport	Secondary						X		X
St. Joseph's R.C. High School	Newport	Secondary	X			X				
St David's Catholic Sixth Form College	Cardiff	College				X		X		
Cardiff High School	Cardiff	Secondary	X			X		X		
Cardiff West Community High School	Cardiff	Secondary						X		
Fitzalan High School	Cardiff	Secondary	X			X	X		X	
Cathays High School	Cardiff	Secondary		X		X				X
Radyr Comprehensive School	Cardiff	Secondary	X			X		X		
Ysgol Gyfun Gymraeg Glantaf	Cardiff	Secondary		X						
Ysgol Gyfun Gymraeg Plasmawr	Cardiff	Secondary	X					X		
Ysgol Gyfun Gymraeg Bro Edern	Cardiff	Secondary	X		X					
Bishop Of Llandaff C In W High School	Cardiff	Secondary						X		
St Teilo's C-In-W High School	Cardiff	Secondary	X					X		
Whitchurch High School	Cardiff	Secondary	X	X		X		X		
Moorland Primary School	Cardiff	Primary								X
Severn Primary School	Cardiff	Primary						X		
Thornhill Primary School	Cardiff	Primary								X
Tredegarville Primary School	Cardiff	Primary						X		X
Ysgol y Berllan Deg	Cardiff	Primary								X

Independent Schools/Colleges

Cathedral School, Llandaff	Cardiff	Secondary		X						
Westbourne School	The Vale of Glamorgan	Secondary		X				X		
Howells's School, Llandaff	Cardiff	Secondary						X		
St John's College	Cardiff	Secondary		X		X		X		
Ruthin School	Denbighshire	Secondary								
Cardiff Sixth Form	Cardiff	Secondary				X		X		
UWC Atlantic College	Vale of Glamorgan	College	X			X				

Key:

Work Exp	Work Experience scheme
LSC	Life Sciences Challenge
HGB	Her Gwyddorau Bywyd
SiHL	Science in Health Live
MA	MEDIC Ambassadors
WAMMS	Widening Access to Medicine Mentoring Scheme
PACE	Promoting Academic Excellence (Fitzalan School Project)
OD	Organ Donation Teaching Scheme

9	College
81	Secondary
19	Primary
7	Independent
116	TOTAL
	WIMD (80-100%)
	WIMD (60-80%)