Researchers at The University of Manchester have developed a programme to engage immigrant communities with their research, part-funded by BBSRC, on parasitic worm infections. The group have now run over 70 events, engaging with 300,000 people.

Sheena Cruickshank1, Professor of Public Engagement and Biomedical Sciences, and her colleagues Professor Kathryn Else2 and Dr Joanne Pennock3 developed ‘The Worm Wagon’, a series of mobile workshops to educate people about parasite infection, with help from BBSRC-funded students. The workshops are based on their research into how immune responses to infections are controlled in the gut4,5,6 and were created to share their research findings, increase dialogue and raise awareness around worm infection.

The World Health Organisation (WHO) estimates that about 840M children worldwide require preventative treatment for soil-transmitted worm infections7. There are a number of immigrant communities in the UK from countries where these infections are prevalent, and many members of these communities either know of someone suffering from an infection or have experienced infection themselves. Communication between these communities and healthcare services can be difficult due to language barriers, which is only worsened by medical jargon.

Cruickshank identified a need for bespoke resources on immunology and infection to address this issue. Funding from a BBSRC Schools Regional Champion Award allowed Cruickshank to develop an infection and immunology course for non-native English speakers, in partnership with Bolton College. To get around the language difficulties, BBSRC-funded PhD students developed bespoke resources8 that addressed the science and the language to enable three-way dialogue around infection. The classes continue and they have recently been developed into an online distance learning course. The work was a finalist in the National Co-ordinating Centre for Public Engagement (NCCPE) Engage competition in 2014, and a paper describing this work has been accepted for publication9.

Speaking of their experience of the classes, one attendee said: “I think all this information we learn is useful in our life. We learn a lot of new words and we know a lot of new things about health. It’s really helpful to us when we have a problem and when we go to see the doctor.”

The health resources have also been used outside of the UK, when Cruickshank, Else and colleagues helped train students planning an expedition to Madagascar in 2015. That first year the students engaged with 399 children in six Madagascan schools and provided them with toolkits and lessons about infection transmission. The students have

IMPACT SUMMARY
Researchers at The University of Manchester, assisted by BBSRC-funded PhD students, developed ‘The Worm Wagon’: a series of mobile workshops aimed at engaging people with their research on parasitic worm infections.

The group have now run over 70 engagement events, engaging with more than 300,000 people. The group’s online video resources have been downloaded over 44,000 times.

Funding from a BBSRC Schools Regional Champion Award also allowed the researchers to develop an infection and immunology course for non-native English speakers. In partnership with Bolton College, they developed the course with the aim of addressing misunderstandings about worm infections and encouraging the uptake of anti-worm therapies. These classes continue and have recently been developed into an online distance learning course.
The group have run over 70 events at festivals and open days, engaging around 300,000 people, including school children, adults, family groups and immigrant communities. The group’s online video resources have also been downloaded over 44,000 times.

Being involved in public engagement activities has given Cruickshank the opportunity to comment on infection via multiple media outlets including newspapers, radio, television, and to review books on infection and immunity. Speaking about the engagement work that she does, Cruickshank says: “A big driver for me is that I am publicly funded for my research, so I have a duty to share what we do with that money and involve the public in our work.” The success of the engagement activities has been recognised: Cruickshank, Pennock and Else were awarded the Manchester International Women’s Day 2013 Award for Women in Science, Technology, Engineering and Mathematics for their work with the Worm Wagon.

Cruickshank was the Royal Society of Biology communicator of the year in 2013. She has also been appointed the Academic Lead for Public Engagement with Research at The University of Manchester, providing training and strategic advice on public engagement, and in 2016 she was a finalist in the BBSRC Innovator of the Year competition.

As well as benefitting immigrant communities, the researchers were also impacted by the project. “The sharing of our research outputs reinvigorated our excitement in our work and raised more research questions leading to exciting new avenues of research,” says Cruickshank.

The Worm Wagon is still being used as a means of educating the public about worm infection. Looking to the future, Cruickshank has recently been successful in obtaining an Economic and Social Research Council (ESRC)-funded studentship with the National Trust to look into the history of infection in the UK and develop exhibitions to share their findings; complementing the BBSRC-funded work they have done. She was awarded a Leshner fellowship from the American Association for the Advancement of Science (AAAS) in the area of infection and science communication. Cruickshank is also using a BBSRC Excellence with Impact award to work with Manchester Museum to create 3D-printed parasites, which will be used for future engagement and teaching events on the impact of infection.

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