# MRC/CSO Social and Public Health Sciences Unit Consultation Response

## Title of consultation
Science Communication Inquiry

## Name of the consulting body
House of Commons Select Committee: Science and Technology Committee

## Link to consultation

## Why did the MRC/CSO Social and Public Health Sciences Unit contribute to this consultation?
This inquiry specifically asks "how Government, scientists, the media and others encourage and facilitate public awareness of – and engagement in – science". Our contribution outlines one such initiative being undertaken by scientists at the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, to facilitate public engagement with scientific research: the Understanding Health Research Tool.

## Our consultation response
This response is submitted on behalf of the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow and was prepared by Dr Amy Nimegeer, Mr Chris Patterson, and Dr Shona Hilton.

## Executive summary
- Within the UK we are increasingly called upon to be active participants in our own health care, requiring strong health literacy skills. A cornerstone of good health literacy is the ability to critically appraise health information: to tell good health science from bad.
- We are all faced on a daily basis with an onslaught of contradictory health messages, many of which purport to be based on scientific research evidence, and yet only a small number of people within society are taught how to critically appraise this evidence. Indeed, even those who do receive such training may struggle to maintain these skills in the face of other demands on their time.
- To address this need, researchers at the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow have developed a web-based interactive tool to support a broad range of stakeholders through the process of evaluating the quality and usefulness of published health research. This tool is free for all users and will be launched in August 2016.

## About Us
1. The MRC/CSO Social and Public Health Sciences Unit, University of Glasgow is an interdisciplinary group of sociologists, anthropologists, psychologists, epidemiologists, geographers, political scientists, public health physicians, statisticians, information scientists, trial managers and others. The Unit receives core-funding from the Medical...
Research Council and the Chief Scientist Office in the Scottish Government Health and Social Care Directorates, as well as grant funding for specific projects from a range of sources. We conduct research to understand the determinants of population health and health inequalities, and to develop and test interventions to improve health and reduce inequalities, using a wide variety of methods including qualitative research, the collection, linkage and analysis of social survey and routinely collected data, evidence synthesis, randomised controlled trials and natural experimental studies. Further information about the Unit is available at http://www.Social and Public Health Sciences Unit.mrc.ac.uk/.

Introduction

2. This inquiry specifically asks “how Government, scientists, the media and others encourage and facilitate public awareness of – and engagement in – science”. This submission outlines one such initiative being undertaken by scientists at the MRC/CSO Social and Public Health Sciences Unit, University of Glasgow to facilitate public engagement with scientific research.

3. Researchers in the Informing Healthy Public Policy programme at the MRC/CSO Social and Public Health Sciences Unit are preparing to launch a web tool designed to guide a range of audiences through the process of evaluating the quality and usefulness of published health research. The tool emerged from a project funded by the MRC Population Health Sciences Research Network (PHSRN) to assess existing critical appraisal tools. The Understanding Health Research tool is hoped to be useful to a broad range of audiences including: interested members of the public, patients, carers, university students, early career researchers, health professionals, policymakers, journalists and third sector workers. The tool is currently undergoing beta testing and improvements ahead of a planned public launch in August 2016.

4. The Understanding Health Research tool aims to address the issue of legitimacy, as identified in Sense About Science’s response to this inquiry. The Understanding Health Research tool was developed by:
   • Dr Shona Hilton (PI), MRC/CSO Social and Public Health Sciences Unit, University of Glasgow
   • Prof Sally Macintyre (PI), MRC/CSO Social and Public Health Sciences Unit, University of Glasgow (now retired)
   • Dr David Ogilvie (CI), Centre for Diet and Activity Research, MRC Epidemiology Unit, University of Cambridge
   • Prof. Mark Petticrew (CI), London School of Hygiene and Tropical Medicine
   • Prof. Susan Jebb (CI), Nuffield Department of Primary Care Health Sciences, University of Oxford
   • Dr Amy Nimegeer, MRC/CSO Social and Public Health Sciences Unit, University of Glasgow
   • Chris Patterson, MRC/CSO Social and Public Health Sciences Unit, University of Glasgow
   • Lindsay Hogg, MRC/CSO Social and Public Health Sciences Unit, University of Glasgow (now Scotland Co-ordinator for Sense About Science and director of Be Experimental)

The need for critical appraisal resources suitable for different audiences

5. Good health literacy skills, or the ability to access, assess and use health information, have direct links to improved public health outcomes [1], better patient/doctor relationships [2], and can contribute to informed shared decision-making. Although basic numerical and
textual literacy are important for navigating health decision making, theories of health literacy have come to encompass many additional skill dimensions. According to the OPHELIA health literacy framework, four key elements of health literacy are: the existence of accessible health information; the ability to find appropriate health information; the ability to accurately appraise the quality of health information; and the ability to actively engage with healthcare providers [3]. Developing these elements of health literacy may be no easy task as individuals are faced with an onslaught of often contradictory health messages from different forms of media (including online and social media), many of which purport to be based on research evidence. Research suggests that while people are increasingly going online to find health information, [4-5] many of us lack the necessary skills to critically assess the quality of available information [6]. Studies have shown a direct link between misinformation supplied by different media sources and resulting public health concerns, such as the resurgence of measles in developed countries following the high profile media-exacerbated Measles Mumps and Rubella (MMR) scare [7-9]. In other words, people may find that previous competencies are no longer sufficient to navigate the complex media landscape [10].

6. At the same time, there has been an evolution of the role of patient/public involvement in health care, moving towards more of a mutual partnership approach to decision-making [11] and increased onus on patients to better understand their diseases and treatment options. Indeed, the quality of information that patients use to inform their medical interactions may have a direct impact on the quality of medical interaction they experience [2]. Patients and the public are therefore increasingly required to have the skills to find and understand health research whilst simultaneously having access to unparalleled amounts of information. The Scottish Government has recently acknowledged health literacy as a policy priority in the 2014 strategy paper ‘Making it Easy: a health literacy action plan for Scotland’. While much research exists on the topic of health literacy, the majority focuses on the communication of pre-appraised health information (such as the NHS website, WebMD or social media sources). These websites can be valuable resources but some may have the potential to be biased and may not support people to learn the skills to go to the source and critically appraise research for themselves. Indeed, it is not just the public who may need support with critical appraisal. The Telling Good Science from Bad project also identified that carers, university students, early career researchers, health professionals, policymakers, third sector workers and other people who use health evidence regularly can find it challenging to maintain the critical appraisal skills necessary to usefully incorporate scientific research evidence into their daily decision making.

Identifying the specific requirements of a new critical appraisal tool

7. The MRC PHSRN-funded project Telling Good Science from Bad was designed to: 1) Identify existing resources for helping people to assess the quality of health research; 2) Identify gaps in the available resources; and 3) Identify how we could develop a new resource to fill those gaps.

8. A scoping review of existing resources was performed, and a series of interviews and workshops were carried out with people who use evidence professionally. The scoping review established that, though a wide range of critical appraisal resources exist, they are predominantly aimed at medical practitioners, and not lay people. The interviews and workshops identified shortcomings of existing resources, and identified features that a new resource could provide. It was determined that a new tool should: be interactive; be accessible to both the public and professional evidence-users; adapt to users’ specific needs; help users consider the applicability of research to specific contexts; help develop and maintain critical appraisal skills; and explain complex scientific concepts in Plain English.
Developing the tool

9. Understanding Health Research was designed to meet the needs identified in the workshops and interviews. Development was a collaborative and iterative process, involving contributions from research methodology experts, web designers and developers, and user experience testers.

10. Understanding Health Research is an online resource with three key parts: 1) an interactive research review process, which guides users through the process of asking the appropriate questions of a specific piece of research, adapting based on users’ answers, and giving users the necessary information to help them understand the meaning and ramifications of those answers; 2) a series of bespoke, Plain English guides to complex scientific concepts, such as correlation and causation, confounding factors and different sources of bias; and 3) links to external critical appraisal resources that complement the Understanding Health Research tool. In short the tool walks users through the process of critical appraisal of scientific health research.

11. The tool has been developed with a broad range of audiences in mind (including motivated lay public users) for example individuals interested in making evidence-based decisions about their own health or the health of those in their care.

Launch, dissemination and evaluation

12. Dr Amy Nimegeer has recently been awarded a grant from the University of Glasgow’s Knowledge Exchange Fund to enable final testing and dissemination of Understanding Health Research. This funding will be used to ensure that the tool is ready for launch and to advertise and publicise the tool to all potential users. Dissemination will be implemented in collaboration with colleagues at Sense About Science, and the tool will be formally launched in August 2016.

Ongoing commitment to science communication

13. The MRC/CSO Social and Public Health Unit, University of Glasgow, has an ongoing commitment to support science communication, which we believe plays a valuable role in society. As such, we would be happy to contribute further evidence for the Inquiry's consideration if required.

References


**When was the response submitted?**

3 June 2016

**Find out more about our research in this area**

[http://www.Social and Public Health Sciences Unit.mrc.ac.uk/research-programmes/po/](http://www.Social and Public Health Sciences Unit.mrc.ac.uk/research-programmes/po/)

**Who to contact about this response**

Amy Nimegeer amy.nimegeer@glasgow.ac.uk; Chris Patterson chris.patterson@glasgow.ac.uk; or Shona Hilton shona.hilton@glasgow.ac.uk