



NATURE NEWS BLOG

European Union digs deeper to understand epidemic threats

09 Aug 2011 | 18:14 BST | Posted by [Mark Peplow](#) | Category: [Health and medicine](#)

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This year's *Escherichia coli* outbreak in Germany has prompted the European Union to dish out an additional €12 million for research into infectious disease epidemics.

The funding, **announced** today by Máire Geoghegan-Quinn, European Commissioner for Research, Innovation and Science, will support a multinational research consortium to tackle big questions about how viruses and bacteria spread from animals or the environment into humans.

"In the past, governments have tended to address outbreaks by firefighting", says Thijs Kuiken, a virologist at the Erasmus Medical Center in the Netherlands and coordinator of the newly-funded ANTIGONE project. "We would rather be able to see epidemics coming before they actually occur." He says that today's announcement won't see that goal entirely realised, but it's a good step in the right direction.

The ANTIGONE (ANTicipating the Global Onset of Novel Epidemics) network will fund fourteen research groups across seven countries to study Shiga-toxin forming *E. coli* as well as other bacteria and viruses with the potential to cause human epidemics, including Ebola virus, the severe acute respiratory syndrome (SARS) virus, and *Yersinia pestis* bacteria, which causes plague.

It joins a similar research consortium called PREDEMICS (Preparedness, Prediction and Prevention of Emerging Zoonotic Viruses with Pandemic Potential using Multidisciplinary Approaches), which focuses on viruses with epidemic potential, including influenza, hepatitis E and rabies. Applications for funding from both proposals were submitted to the EU Research Framework Programme in 2010 following a call for proposals on emerging epidemics research. At the time, only PREDEMICS was given the go-ahead.

But this year's *E. coli* outbreak, which infected 3,910 people in the EU and Norway and resulted in 46 deaths, was a timely reminder that deadly bacterial strains can unexpectedly emerge as well. As a result, ANTIGONE has been bumped up from the reserve list and into action. €2.1 million of the funding announced today is specified for research on better understanding the **unusual bacterial strain**.

Kuiken says ANTIGONE's potential for making progress in understanding epidemics lies in bringing together scientists with experience in multiple different diseases, and from medical and veterinary science. "We've gained a lot of knowledge about individual bacteria and viruses in recent years", he says, "now we really need an integrated effort to find common factors in the chains of emergence of these pathogens".

The funding also contains a 'flexibility cause' – a sign that the EC understands that pathogens don't wait around while they call for and assess new proposals. Under this stipulation, if a new outbreak arises – perhaps of similar dimensions to this year's *E. coli* outbreak – the Commission can require the researchers to immediately shift their focus to the new threat.

