Usher Institute formally launched

One of the world's most cited scientists delivers the inaugural lecture of an institute at the heart of the University of Edinburgh's strategy to build the UK's premium academic health data science environment.

The Usher Institute, with its mission to advance patient care and improve healthcare systems, formally launched on October 1st 2015 with a showcase of its researchers' high impact work and the inaugural lecture by Stanford University's outstanding clinician scientist Professor John Ioannidis.

Building upon the University's strengths in public health, general practice, epidemiology and statistical research, the Usher Institute embraces social sciences, informatics and data science to create a high energy interdisciplinary environment to deliver cutting edge healthcare research, education, innovation and knowledge exchange – collaborating widely with patients, the public at large, other universities, the NHS and industry.

"Health systems internationally are failing so we must find ways to do healthcare better and cheaper," explained Professor Andrew Morris, Vice Principal Data Science at the University of Edinburgh and Director of the Usher Institute. " The Usher Institute is determined to make an impact that improves the health of individuals and populations and so establish Edinburgh as a global force in population health sciences and informatics."

Health informatics – the expert analysis of privacy-protected medical and population data powered by high performance computer systems – is now critical to the delivery of the right information to the right people at the right time. Huge data sets can be created by curating patient and other population based datasets as well as from the sequencing of whole genomes of populations. Researchers can work with this data to develop solutions for our most pressing healthcare problems – such as providing better, targeted care for cancer patients, developing new medical technology or informing national and global health policy making.

With a focus on big data and public health, the inaugural lecture provided Professor Ioannidis with a platform to warn against creating "big noise and big error" by producing studies that are not robust enough.

His Stanford University team set out to map 235 biases by text mining 17 million Pub Med papers. Professor Ioannidis found that 97% of the biomedical literature claimed significant results, which led him to conclude, with scepticism that "scientific discovery has become a boring nuisance."

He argued that researchers should aim for fewer discoveries and instead focus on replicating and reanalysing studies to produce validated discoveries so the research that informs medical and policy decision making is strong.

Professor Ioannidis believes the way forward is to have large scale collaborative research, widespread adoption of replication, sharing of standards and data, and containment of sponsors and authors with conflicted interests.