

The Milan Critical Care Datathon, and ESICM's Big DataTalk

I've just had the pleasure of attending the ESICM's 'Big DataTalk' in Milan, though it didn't start well for me as my morning flight from the UK was cancelled due to 'extreme weather'! But I flew later on and only missed the first half-day.

The Big DataTalk was a two-and-a-half day conference that took place in conjunction with a Critical Care datathon – which is where people come together for a weekend to try and use Critical Care data to answer clinical questions. It's like a mini research project with teams of 5-10 people working intensively for a weekend to answer a research question. To join a team you need to have data science and /or clinical, skills and knowledge, the data is then provided. This is the first time I've had any involvement with a datathon, so I took the slightly easier option of attending the Big DataTalk - a traditional conference that took place in parallel with the datathon.

It was extremely international, with speakers and attendees from all over the world. Physicians and data scientists dominated, though there were also biomedical engineers. The talks covered how to actually carry out data analysis using various techniques, and results from researchers who have been investigating the prediction of ICU readmission, and computer recommended treatments for patients with sepsis.

More general topics such as data protection, GDPR and security were also covered, including lessons learned from a prolonged electronic record downtime. Other challenges mentioned were the difficulty of bringing the research techniques into practice, and how this should be regulated. If you have a computer recommending treatment for e.g. sepsis, should it be viewed as a medical device like a syringe driver; and if so how do you test it? There was also concern that some medical roles would be replaced by computers in the future.

There was discussion of why we should be doing this in the first place. The problems with many traditional RCTs producing negative results were noted, together with a probable need for more individualised care, but for me one of the most powerful points was from Matthieu Komorowski who felt that it would be unethical not to try and use all the data available.

At the end of the conference the teams from the datathon presented their projects. One of my favourites was a group that tried to predict whether it was worth taking a new ABG from a patient. So, could you predict whether for example the lactate has gone up by 1 mmol/L using the patient's historical data to that point? They had some success with this, but more work will be needed. Although the conference was medically dominated, as with this project some of the topics were potentially very applicable to nursing.

Personally, I'm going to continue to learn about data science, and I hope to join the project side of a datathon at the next opportunity.

For more information on the talks, see <http://www.esicm.org/blog/>