

10th Oct, 2014

Report of the Short Term Scientific Mission (STSM)

Purpose of the STSM

The purpose of the visit was to continue and deepen the collaboration of our international research project. The project group consists of Prof. Alec Morton from the Department of Management Science in the University of Strathclyde, PhD student Laura Schang from the Department of Management in the London School of Economics and Political Science, Prof. Ahti Salo from the Department of Mathematics and Systems Analysis in Aalto University and me.

The objective of our research is to examine the decision making processes in healthcare and how the processes are organized and evaluated. The focus is on developing comprehensive performance comparisons of healthcare units. One of the main ideas is to have also quality indicators integrated to the efficiency model. The application area of this comparative evaluation is Scotland and its healthcare boards. Such regional authorities are in charge of allocating resources for healthcare for their local populations; yet, unlike healthcare suppliers, they have rarely been the focus of efficiency analyses.

In more detail, the objectives of the visit set in the spring were

- i) to revise the paper in Glasgow
- ii) to plan the future research collaboration
- iii) to present the paper in the conference
- iv) to examine the possibilities for benchmarking between Scotland and Finland

Description of the work carried out during the STSM

During the visit in Glasgow, we elaborated the ideas of healthcare board evaluation with Ms. Schang and Prof. Alec Morton. The work and analyses we had done in the springtime left us two main questions to revisit: the choice of relevant variables in the model and defining the “right rate” of the service production.

The question of relevant variables is more a technical one, so the focus was given to the question of “right rate”, especially in the case of emergency admissions. Usually in the efficiency analyses one assumes that the more services are produced the better it is. However, in healthcare the demand and the need are not always the same thing. Some diseases are over- or underdiagnosed which means that based on the current production level of services, it is difficult to say if the amount is too little or too much. Ms. Schang and Prof. Morton had researched this

phenomenon in their recent paper. This approach applied to emergency admissions would mean that some admission types could be avoided by better basic and preventive care and communication. The main problem is to define what the real needs of different services are and at what level the marginal utility of service is high, when it starts to decrease and when it turns negative.

One potential way to take this decreasing marginal utility and uncertainty into consideration is to use the approach called Utilities Additives (UTA). With this approach one can estimate the shape of utility function and incorporate uncertainty in it. During the visit I used several days getting familiar with this method, its different applications and its programming.

While I was in the UK I took the opportunity to attend the European Health Economics Association (EuHEA) PhD Student-Supervisor and Early Career Researcher (ECR) Conference in Manchester. The conference was well organized and there were all together about 100 young researchers and their supervisors. In general, the atmosphere and the feedback young researchers got were very positive and constructive.

In the spring, our group had submitted a paper to this conference and it was chosen to be presented in the poster session. Together with Ms. Schang, we presented it to other participators. The ideas of our research gathered much interest and we also got some constructive feedback. For both of us, this was the first poster we ever presented and while discussing the session afterwards, we got many ideas how to improve both the poster and the presentation.

The main benefit of the conference was getting to know the field of health economics, the current trends of it and other young researchers. Also seeing the presentations of others, discussing them and hearing the detailed feedback of the supervisors surely improved academic thinking and how to evaluate own research.

Description of the main results obtained

The main result of this Short Term Scientific Mission was the revision of the fundamentals of our approach. We decided that in order to build a solid scientific contribution, we need to develop our approach further and consider the question of the “right rate” of service production. We gave this work a good start by exploring different methods from the literature that could be used to this purpose and by developing ideas how to approach the phenomenon.

One of the greatest benefits of the visit was meeting Ms. Schang and Prof. Morton face to face. This was the first time I met Ms. Schang in person and it was really valuable to discuss with her and brainstorm the ideas. Meeting the other collaborators in person instead of calling via skype was definitely beneficial at this stage of the project. After this it is much easier to continue the collaboration.

The participation in the conference gave us valuable feedback about our research and the experience of presenting the poster. Also the better understanding of health economics and its current trends was important.

Future collaboration with the host institution

The collaboration project with Prof. Morton and Ms. Schang continues. The objective is to develop an approach to the question of “right rate” and then integrate it to REA-based performance comparison analysis.

Foreseen publications resulting from the STSM

The objective is that the collaboration leads to an article. The main idea of the research has now been presented in two conferences and we have a solid methodological base to build on.