



## ORAHS Newsletter Spring 2012

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### **1. Chairman's updates – by Sally Brailsford**

In January 2012 I attended my first meeting of the EURO Executive Committee as Vice-President 1 of EURO. As I mentioned last time, VP1 is the role that looks after the EURO-k conferences. The meeting was really interesting and I very much enjoyed meeting the committee, who made me really welcome and are going to be great to work with. We also had some fantastic meals, including a really special farewell dinner for Philippe Van Asbroeck, who many of you may know, and is retiring as permanent secretary after goodness knows how many years of sterling service to EURO. One of the other new tasks I have taken on this year is joining the editorial board of the new EURO journal on Decision Processes, of which the editor-in-chief is Ahti Salo. The journal includes healthcare applications, and I would like to encourage you all to submit papers to this new journal: [www.springer.com/business+%26+management/operations+research/journal/40070](http://www.springer.com/business+%26+management/operations+research/journal/40070)



Because my predecessor Gerhard Wäscher (now President-elect) had been dealing with all the arrangements for the Vilnius conference, I shall be starting for earnest with the 2013 conference EURO XXVI. This is a joint meeting with INFORMS and will take place in Rome July 1-4, 2013. See <http://www.euro2013.org/>. I'm looking forward to visiting Rome (again) in October to meet the team, and I also hope to see a few old friends while I am there! Equally, I hope to see lots of ORAHS members at EURO XXV in Vilnius (<http://www.euro-2012.lt/welcome>). Marion Rauner, Stefan Nickel, Teresa Melo and I are jointly organising the Healthcare stream. It is good to see many ORAHS members in this stream, and one of the many tasks on my to-do list is to sort out all the talks into sessions.

Because of all this extra-curricular activity, which includes becoming a grandmother last December, I have decided to “outsource” the editorship of this Newsletter and I am delighted to announce that Sonya Crowe from the Clinical OR Unit at University College London has kindly agreed to take this over. She has been doing all the hard work of chasing everyone for copy, including me (who was last, I am ashamed to say).

Finally, following on from the previous Newsletter, the Advisory Board has now considered the options for ORAHS 2014/15 and we are proposing the following:

- 2014 – a “satellite” extra meeting in Shanghai
- 2014 – the main meeting in Lisbon, the week after IFORS which is in Barcelona
- 2015 – HEC Montreal

## **2. Newsletter editor – by Sonya Crowe**

As the new editor of the Newsletter, I’d like to say hello and introduce myself! For those of you who don’t know me, I work at University College London’s Clinical Operational Research Unit, where I’ve been for 3 years or so. My background was originally in experimental physics, after which I spent some time in the OR services within UK Government, including the Department of Health.



At CORU, I enjoy applying OR to a variety of healthcare related problems, such as projects relating to health protection policy, clinical risk models, aspects of global health and the use of bridging technologies within child heart transplant programmes.

I’m looking forward to editing the Newsletter and getting to know more of you in this role – and I very much welcome your suggestions for possible contributions and ideas for future issues!

## **3. Update on ORAHS 2012 (Twente) – by Erwin Hans and Ingrid Vliegen**

The [ORAHS 2012 conference](#) is approaching rapidly, and we’re working hard to organize a memorable meeting. In the spirit of the ORAHS tradition, we have organized an extensive social program that has many opportunities to meet old friends and make new ones. This also holds for the accompanying persons, for whom we have organized a wonderful program. Visit the website for more information: <http://www.utwente.nl/orahs2012>

We cordially invite you to [register for the conference](#) (early registration ends May 22nd), and [submit an abstract](#) for an oral or poster presentation. The deadline for the abstract submission is April 30th. We advise you to book your accommodation early, preferably in one of the accommodations close to the venue: [Drienerburgh Hotel, Broeierd, or Logica](#).

The theme of ORAHS 2012 is ‘High Tech – Human Touch’. During four plenary talks, policy makers, academics and practitioners will discuss the challenges and opportunities that new technologies

bring for the healthcare sector, how the OR community can be of added value to this, and how OR research can lead to an improved working environment for employees and better quality of care. Furthermore, the implementation of the developed solutions will be discussed and the human factor that is involved in this.

Since our research group CHOIR focuses its research on real-life applications and has many contacts in healthcare organizations, we would like to use ORAHS 2012 to bring academics and practitioners together. Therefore, on Tuesday July 17, a track targeted at practitioners will be organized parallel to the academic program. During that track, the focus will be on applications of OR in healthcare, combining research-oriented presentations with presentations of healthcare organizations using this research in practice. Although the focus will be on practitioners, it is possible for participants to switch between the two programs. Furthermore, all breaks, and plenary sessions are organized for both groups together.

We look forward to seeing you in Enschede this summer!!!

Erwin Hans & Ingrid Vliegen

#### **4. Update on publications resulting from ORAHS 2011 (Cardiff) – by Paul Harper, Janet Williams and Vince Knight**

In addition to the proceedings book (containing 23 papers) that was given to all delegates at the conference, submissions were also invited for a special ORAHS issue of *Health Systems* (guest edited by Janet and Vince). A good number of papers were received late last year and are currently under review, with the hope that the SI will appear in early 2013.

#### **5. PhD student perspective – by Paolo Tubertini**

Why am I working on OR applied to health systems? Well it's better to split the answer in two parts. The first one deals with Operational Research and my interest on that topic. I would say that I discovered empirically how much OR can be a powerful DSS tool in 2008 during my Bachelor degree thesis in Industrial Engineering. I was dealing with a business management competition at that time and I had problems in planning production and distribution activities. Well, with an MIP model I found out that I was able to save thousands of virtual Euros. It was clear to me that if I wanted to understand the real potentials of OR as an effective tool for management decisions, I would have applied it to real and more complex problems.



Here we are to the second part of the answer, while I was looking for a topic for my Master thesis Prof. Andrea Lodi asked me if I was interested in collaborating with the Regional Health Authority of Emilia-Romagna. At that time its innovation department was interested in DES models for strategic decisions. It seemed to me a great opportunity because each year our region allocates more or less half of its budget on health services and it's clear to everybody that efficiency in the public sector is a fundamental living matter.

I'm in my second year as a PhD student now and I'm still working in this field. I can't say it's an easy one, mainly from the cultural point of view, but for sure there are many opportunities that can be grasped. At the moment I'm collaborating with the Mental Health department of Reggio Emilia for a process- reengineering project on nurse triage and with the Local Health Authority of Ferrara for a simulation of breast cancer screening program. Both projects have been activated in order to show how the simulation can be a useful support in care pathway management and improvement.

I would say that the most promising project I'm working on is a third one about Operating Room planning. Well, I'm just at the beginning of it but, talking to people that are currently managing OR planning for a local hospital, makes me think that there are huge margins for improvement. Currently there is nothing but paper sheets used to plan OR admission. Pre-surgical activities such as anesthetists outpatient appointments or blood collection are not planned. It's clear to everybody that these activities have to be done in order to manage hospital resources efficiently but very little is organized at the moment.

Dealing with health managers is often difficult from the cultural point of view, they are mainly focused on clinical outcomes rather than operational ones and it's not so easy to make them understand how OR can be used to support their activity. ORAHS community for me was fundamental because I found out that, besides technical implementation of OR models, one of the most important topic is about how we can be effective in building useful tools for strategical, tactical or operational decisions. My first and at the moment only ORAHS conference was in Cardiff 2011 and I would say it has been a great experience both from the academic and the social point of view. Talking to people that are collaborating with several health institutions helped me a lot in understanding how they faced and managed their collaborations in order to succeed. I hope to have the opportunity to attend several more ORAHS conferences and to finally see OR used as a standard tool to support health decision-making processes.

## ***6. Putting research into practice: a case study – by Christina Pagel***

Adult cardiac units in the UK routinely monitor their survival outcomes adjusting for the severity of their case mix, supporting improvements in the services they offer. Recent work we've done at the UCL Clinical Operational Research Unit (CORU) with Great Ormond Street Hospital and two other UK hospitals is starting to allow UK paediatric cardiac units to do the same thing for the first time.

Currently there are eleven centres in England and Wales that perform heart surgery on children. Just over a year ago the NHS Safe and Sustainable Review published its report on the delivery of

children's heart services. The Review, as well as the closure of the paediatric surgical unit at the John Radcliffe Hospital in Oxford two years ago, has focussed national attention on the provision of this highly specialised service.

One of the highlighted issues was the difficulty in evaluating the (short-term) mortality outcomes. While the UK Central Cardiac Audit Database (CCAD) currently publishes outcomes by procedure type for all units for each centre, outcomes across a whole programme cannot be fairly monitored because there is currently no generally accepted method for adjusting for the severity of case mix in children.

At the time of Safe and Sustainable Review, CORU had just started an NIHR funded project to work with CCAD and clinicians at Great Ormond Street Hospital to develop a risk model for 30 day mortality following heart surgery in children, using diagnosis and other patient characteristics as well as procedural information. This project finished in October 2011 with a risk model developed on ten years of national, audited data. Crucially, the model can be used for a whole programme and its performance is comparable to, or better than, existing risk scores.

From the beginning, we were clear that we wanted the risk model to be used by paediatric cardiac units in-house to monitor their own outcomes in a routine manner, mirroring current adult practice. This desire informed every decision we made in designing and conducting the study. We needed to ensure that the risk factors used resulted in a model that performed well across the range of risk, while at the same time being information readily available to units, had clinical face validity, were objective and that there were not so many so as to preclude routine use.

We also wanted the risk model to be used. Thus, throughout the project we engaged the clinical community, firstly by letting them know about the project and secondly by presenting updates on progress at various national meetings. The interest this generated meant that almost as soon as the model was developed and the final NIHR report submitted, we had UK centres eager to pilot the model for routine risk adjustment in house.

The enthusiasm of the clinical community for monitoring their own outcomes regularly was really heartening. We worked closely with three units to develop Excel software that could be used by data managers to implement our risk model and produce charts showing the unit's risk-adjusted 30-day outcomes over time. The pilot project has now finished and been presented to representatives from all units at the annual CCAD meeting in February. The three pilot units are continuing to use the developed prototype software, now without CORU's direct support which we consider the crucial next step.

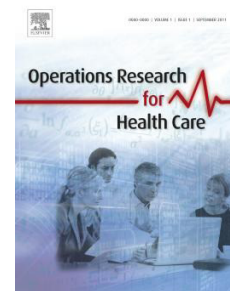
We found that key to the success of this pilot was not just producing easy-to-use software but also in taking the time to engage with both data managers and clinicians at each unit. We were careful to explain not just the advantages of the model, but also its limitations and to stress that the graphical output was useful for highlighting trends (both positive and negative) but was in no way, on its own, evidence on service quality. Engaging directly with the clinical teams also brought home to us at CORU that the use of our risk model had ramifications – the cases shown in the graphical output, particularly the deaths, were not just points on a graph but children treated by these teams. It was

exciting to see our work make the transition into practice so quickly but also educational in highlighting the sensitivity needed in discussing the model and results with the clinical teams.

## **7. Update on the two new journals in health OR – by Paul Harper, Martin Utley and Sally Brailsford**

Two new journals will be launched in 2012, both with editors from the ORAHS community and both promising to be an excellent place for ORAHS members to publish.

Articles from the first edition of *Operations Research for Health Care* are now available online ([www.sciencedirect.com/science/journal/22116923](http://www.sciencedirect.com/science/journal/22116923)) with contributions from OR academics and practitioners, clinicians and health policy experts. Highlights include Professor Sir Muir Gray writing on the opportunities for OR to assist in delivering good value health care in these times of scarce resources, and ORAHS stalwart Leonid Churilov writing with Professor Geoffrey Donnan to set out an OR agenda for stroke care systems. For further information on the journal and to submit a paper, go to [www.elsevier.com/locate/orhc](http://www.elsevier.com/locate/orhc), or feel free to contact Martin directly.



*Health Systems* (<http://www.palgrave-journals.com/hs/index.html>) is a new journal commissioned by the UK OR Society with Palgrave Macmillan. The first issue will appear in June, comprising of an editorial and 8 papers that have been selected to demonstrate the types of manuscript and areas covered within the scope of the journal.

The underpinning ethos of *Health Systems* is that all aspects of health and healthcare delivery can be viewed from a systems perspective, which benefits from interdisciplinary collaborations. The journal recognises that often the most interesting problems occur at disciplinary boundaries and would, therefore, particularly like to receive papers that span several disciplines. To facilitate wider recognition and understanding of the different domains, and associated research methods and applications, *Health Systems* covers a wide range of academic disciplines and sub-disciplines which contribute to a multi-perspective approach towards healthcare delivery. These include (but not limited to) operational research, information systems, design science, knowledge management, decision analysis, data mining and data analytics, health economics, industrial and systems engineering, human computer interaction, management science, mathematical modelling, organisational behaviour, nursing informatics, communications, and public health. To promote the range of topics and disciplines served, the journal is initially supported by 21 Area Editors and 37 Editorial Board members.

Full details can be found on the journal's [webpages](#).

We would be delighted to receive papers from the ORAHS community. Indeed, our area editors include familiar ORAHS faces - including Murat Gunal, Evrim Gunes, Vince Knight and Monica Oliveira, so please do speak to the editors, Sally or Paul, or any of the area editors for further information.



## **8. Update on 2nd Koc University Health Care Operations Workshop**

Koc University Health Care Operations Workshop will be held on July 6, 2012 in Istanbul, Koc University campus. The aim of this workshop is to bring together researchers from operations research, management and medicine fields, providing an overview of different research problems of interest and illustrating the use of different methodologies.

The tentative program is as follows:

Erik Demeulemeester (Katholik Universiteit Leuven): *An integrative approach for case mix planning in the health care sector*

Pinar Keskinocak (Georgia Institute of Technology): *Universal Tool for Vaccine Scheduling: Applications for Children and Adults*

Lerzan Ormeci (Koç University): *Length-of-Stay and Optimal Portfolio of Surgical Procedures*

Nicos Savva (London Business School): *Investigating workload tipping points: When do hospital wards become unsafe?*

Tolga Tezcan (Rochester University): *Optimal capacity and routing decisions for hospital wards in the presence of infectious patients*

Serhan Ziya (University of North Carolina at Chapel Hill): *Resource-Based Patient Prioritization in Mass-Casualty Incidents*

For more information please see the workshop webpage at <http://healthcare.ku.edu.tr>. If you would like to participate please send an email to [egunes@ku.edu.tr](mailto:egunes@ku.edu.tr) or [lormeci@ku.edu.tr](mailto:lormeci@ku.edu.tr). We hope to see you there!

## **9. John Macfarlane**

Many of us will remember John Macfarlane, one of the founder members of ORAHS, and PhD supervisor, research collaborator and good friend of a great number of us. John has been unwell for quite a long time and we heard with great sadness that he passed away on March 14. At such times we are particularly reminded that ORAHS is indeed a "research family" and although we welcome new members as excitedly as families welcome new babies, we also join together in mourning the loss of dear friends.

Jan Vissers writes: *We feel lucky that we have known John in his best years when we met through the ORAHS network. John was one of my inspirators in my early career as a young researcher (1980) when I was investigating waiting times in outpatient departments and he commented on my first scientific article by a master thesis produced by a student he supervised who tested 'Vissers' appointment system. I was filled with pride, of course, by this attention from an OR person who had already an established reputation in OR in Health. Later, when I was working on my PhD, he again*



*was supporting me by discussing during the ORAHS meetings my progress. Of course, I was very happy that he was willing to attend my PhD public defence in 1994 and to take part in the ceremony as paronymph together with Miranda. No doubt many others have experienced this support in their research career, as I did. John was always very supportive to colleagues, especially the young researchers.*



## John Macfarlane (1928-2012) – by Jackie Riley

John Macfarlane - a natural born leader, an inspiration to all who met him, particularly his students and a man of great wit and charm.

Born in Glasgow on the 17<sup>th</sup> Feb 1928 his education led him to become a Chemist graduating from Glasgow University in 1949 with perfect timing to take up his National Service at Harwell, the Atomic Energy Research Establishment, lucky for him during this time he “just missed out” on the opportunity of going to Easter Island to witness the tests!

On returning to Glasgow John was employed in the steel industry working for Colville’s at Dalzell and Clydebridge Steel and Iron works. The friendships forged here lasted a life time and right up to around 2004 John and his Colville group met monthly for lunch in a restaurant - discovered, tested (usually with his current PhD student) and recommended by John – a very discerning connoisseur of both food and drink.

During this time the use of Operational Research was growing and so was John’s interest in the area; applying scheduling, optimisation and many other techniques to the steel industry. As ever, keen to embrace this fully he joined The Operational Research Society 1<sup>st</sup> April 1965.

But it was as a lecturer John would find his true calling, his need and ability to impart knowledge, inspire students and delve deeper into Health Care problems was to shape the rest of John’s life.

He became a lecturer at Strathclyde University 1966 and it was not long before the university opened the Health Services O.R. Unit in 1970 where John became the Director. Those involved in “The Unit” recall the camaraderie that John brought to his group of staff and students alike, while working hard on improving all aspects of health care from Nurse scheduling and Out-patient clinics to Cost-benefit analysis and Emergency services. But of course where John is concerned it was never all about work and no play and as well as enjoying liquid refreshments frequently the team also took part in outings such as a trek along the Campsies, the ascent of Ben Lomond on the eve of the longest day in 1975, a climb up a Corbett near Arrochar called The Brack, and the departmental golf outing – rest assured there were no straight forward scoring systems adopted for these games!

When The Unit was closed in 1983, John returned to the Management Science Department of Strathclyde University as a Senior Lecturer where he continued to teach and inspire and add to his ever increasing list of PhD students in Health Services OR. This is thought to be in the range of 20, although we cannot be sure, they do include Stuart Cummings, Costas Sapountzis, Mario Jorge



Fereira de Olivera, Jan Schreuder and Jackie Riley. As per John's style his students were not just his students but became friends of the family and were often made welcome for a meal at his home.

As a founder member of The Operational Research Applied to Health Services European Working Group (ORAHS) his involvement in organising the meetings spanned the years. Jan Vissers remembers a very awkward moment in the Urbino meeting in 1989 when we were together in the basement of the community hall and Martin Lagergren as ORAHS chairman was starting his thank you speech to the Mayor of Urbino, when John took a picture on his automatic but not digital camera, and the camera began rewinding with a lot of noise that echoed for more than a minute through the vaults of the basement, while John was trying hard by attitude and facial expression to deny any responsibility for the incident.

The 1987 meeting was held in Edinburgh where John was co-organiser with Lyn Jones. The planning of this meeting included a site visit from David Clayden and Jan Vissers, but after a series of welcome parties, at the train station, welcome drink at the department in the university, welcome party with the neighbours at John and Helens home the visitors returned to the station the next morning without any opportunity to discuss seriously the coming meeting. John was also the co-organiser with Jackie Riley of the 2000 meeting in Glasgow.

On retiring from Strathclyde University in 1993 John became an Honorary Lecturer at Glasgow Caledonian University for 7 years, while of course supervising another PhD student.

John's legacy of Health Services OR lives on through the countless students he inspired and lives he touched across the world.

John is survived by his wife Helen, 2 daughters Morag and Stroma and Grand-daughter Iona.

### **10. Conferences and Calls for Papers**

EURO XXVI, Rome, July 1-4, 2013. This is a joint meeting with INFORMS. See <http://www.euro2013.org/>. Save the date!



OR 54, Edinburgh, 4-6<sup>th</sup> September 2012 – Health Stream. See: <http://www.theorsociety.com/Pages/Conferences/OR54/OR54.aspx>  
Deadline for early registration fee: 30 June 2012.

