European Federation of Statisticians in the Pharmaceutical Industry
Representing Statistical Associations in Europe

EFSPI Newsletter June 2019

In this newsletter:

Regulatory

Webinar: Adaptive design: updated draft FDA guidance and its implications, 4th July 2019, 14:00 - 15:30 UK time In September 2018 the FDA published a guidance on adaptive design for clinical trials of drugs and biologics, updating (not finalizing) its initial draft from February 2010. The main focus of the webinar will be to provide an overview of its main contents, which will be presented by Jürgen Hummel (PPD). In addition, Kaspar Rufibach (Roche) will introduce an open-source statistical software for adaptive designs, RPACT (an R package available on CRAN that enables the design and analysis of confirmatory adaptive clinical trials). Kit Roes will also comment on the guidance from a European Regulatory perspective, which will be followed by a brief panel discussion. Click here for more information and to register.

The draft ***Qualification opinion of clinically interpretable treatment effect measures based on recurrent event endpoints that allow for efficient statistical analyses*** was released for public consultation on the 19th June 2019. Click here to view the opinion. Comments can be submitted until 9 October 2019. Please send comments to Christoph Gerlinger (christoph.gerlinger@bayer.com) by the end of August 2019.

EFPIA/EFSPI Estimand implementation working group The ICH E9 working group are busy finalizing the ICH E9(R1) document with a final version being released in late summer. Many companies have, or are beginning to, develop plans to implement the new framework being introduced in the E9 addendum. An estimand implementation working group within EFPIA and EFSPI is being established to enable statisticians and clinicians to share their experiences and identify best practices for

implementing the new estimand framework. If you are leading the implementation of ICH E9(R1) and you are interested to join the EFPIA/EFSPI estimand implementation working group, please contact Chrissie Fletcher (fletcher@amgen.com). Please encourage one of your clinical colleagues to also participate with you!

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Scientific

On the 4th June EFSPI/BBS ran a successful 1-day meeting on Precision Medicine. Precision medicine aims to tailor disease prevention, diagnosis and treatment to the individual patient, based on their individual features extracted from multiple types of data (such as multi-omics, imaging, patient history, lifestyle and environmental factors). Advances in screening platforms and the availability of big data are fuelling the scientific progress in precision medicine, spanning the early stage of drug discovery all the way through translation into clinical practice. Adequate use of statistical and computational methods is critical to its successful implementation in clinics. Experts from the pharmaceutical industry, academia and the European regulatory bodies presented the current state of the art and discussed the challenges and opportunities ahead. Click here to view the slides.

In addition, the Scientific Committee is planning a 1-day meeting on the topic "**Reproducibility in Clinical Research**". The meeting, to be held in November at BMS (Belgium) intends to bring together speakers form industry, academia and regulatory agencies, who will address questions relating to the topic, and the role statistics (and statisticians) have in ensuring clinical research is conducted and reported in a reproducible manner. The exact date, draft agenda and list of speakers will be distributed shortly; below is a list of proposed topics.

- The regulatory requirement for two independent pivotal studies in marketing applications is intended to ensure reproducibility of results. How good is this criterion, and in what circumstances can we deviate from it? What would be the 'optimal' type-1 error rate?
- What alternative statistical methods are there to hypothesis tests, and how much better are these methods in ensuring reproducibility? Are Bayesian methods the answer?
- What statistical methods are there to ensure reproducibility when extrapolating results from a (planned or unplanned) sub-group analysis?
- How can we ensure reproducibility of phase II results when going into phase III?
- How can real world evidence increase the reproducibility of clinical studies?
- How can we increase 'translational reproducibility', that is, the chance of predicting the outcome of a trial in humans based on animal data? What more can statisticians contribute to the validation of biomarkers?
- What requirements should journal editors make to ensure reproducibility of published data analyses?
- In general, what can statisticians contribute to resolving the reproducibility crisis?

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Country News

BBS (Switzerland)

BBS are holding their Summer Seminar on the 21st August 2019 in Basel with the topic of ***Causal Inference in Drug Development***. Academic, Industry and Regulatory perspectives will be shared including ICH E9(R1) and the new estimand framework. A variety of case studies will be shared and there will be a panel discussion. Click here to view more details on how to register for the meeting.

BBS are holding their Autumn Seminar on the 1st November 2019 in Basel with the topic of ***Predictive Modelling, Machine Learning and Causality***. The talks will present recent methodological advances and challenges as well as case studies from the pharmaceutical industry and academia. We welcome all quantitative scientists to this event which will be a great opportunity to meet with colleagues and exchange ideas on this emerging and vibrant field. Click here to view more details on how to register for the meeting.

PSI (UK)

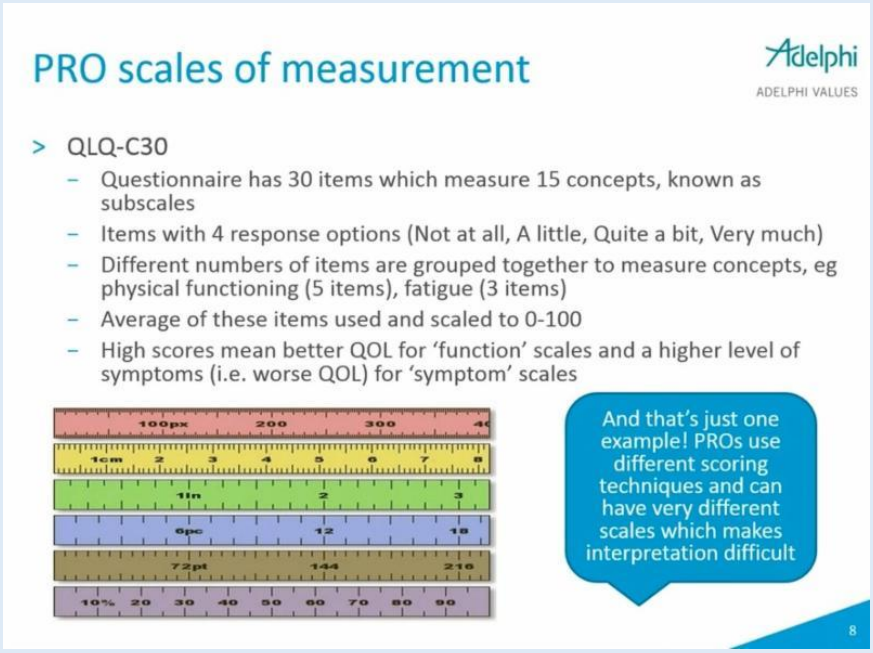
Register for future PSI events Register your interest now to receive updates, hear when registration opens and receive a 10% discount on the early bird rate (where applicable)!

- **Training Course:** ICH Guidelines for Statisticians
- **Training Course:** PK Methods and Regulatory Considerations
- **Training Course:** Time to Event Methods
- **Training Course:** Bayesian analysis software
- **Training Course:** Adaptive design software
- **Training Course:** R for SAS users
- **PSI One day Scientific meeting**: Time-to-event and recurrent event endpoints in clinical trials

2019 PSI CONFERENCE: 2 - 5 June, London, Data Driven Decision Making in Medical Research

The PSI Conference 2019 in London was the biggest PSI Conference to date with 409 registrations. Thanks to everyone involved; speakers, poster presenters, delegates, exhibitors, sponsors, the PSI scientific organising committee and MCI. The content is being uploaded and will be available in a couple of months and will be available to all PSI Members.

The 2020 conference will be in Barcelona at the Crowne Plaza Fira Center. The Scientific Committee will be putting the content outline together in July, so if you have any ideas about what you would like to see, please contact Kate Taylor, the 2020 Conference Chair (khargrea@amgen.com) or MCI. We hope to see you all there.



FEATURED VIDEO: [PSI Webinar: Patient Reported Outcomes (PROs) - Clinically Meaningful Interpretation]

The Science Media Centre

The Science Media Centre is a charity dedicated to evidence-based, responsible reporting of science in the national news media. They have an expert database of 2000+ scientists who provide quotes in response to new research to help journalists report new (and often controversial) findings accurately. Statisticians form an important group on the database. When new research appears claiming that EMF/coffee/deodorant causes CFS/cancer/depression, we often call on statisticians to help crunch the numbers and see if the claims stack up. By providing expert quotes to journalists in real time we improve the quality and reliability of reporting to the public.

If you are a statistician or epidemiologist who would like to volunteer to help the media get it right, please contact Tom Sheldon tom@sciencemediacentre.org for more information.

Pharmaceutical Statistics - Request for Volunteers

Pharmaceutical Statistics is the official journal of Statisticians in the Pharmaceutical Industry (PSI). The journal publishes papers related to pharmaceutical statistics, and all articles are peer-reviewed. If you are interested in reviewing potential articles for publication and/or becoming an Assistant Editor, please contact Alan Phillips at Alan.phillips@iconplc.com. Many of us have areas of expertise that the Editor in Chiefs would like to draw upon to ensure that published articles are of exceptionally high quality and relevant to the work we all do.

EFFECTIVE STATISTICIAN

2 new episodes every biostatistician should know about!

Useful tips to apply the composite estimands strategy - Interview with Michael O'Kelly

Estimands continue to be a hot topic, but many statisticians struggle to put it into practice. As statistician, we wonder about the correct interpretation and how to analyse different estimands. In this episode, we speak with Michael O'Kelly, an expert on this topic with lots of presentations around estimand (see e.g. the PSI events). He also won the award for Statistical Excellence in the Pharmaceutical Industry, jointly run by the RSS and Statisticians in the Pharmaceutical Industry (PSI). Listen to the episode to learn about the practical parts of composite strategy!

Understanding heterogeneity for patient preference data and how it effects the benefit-risk ratio for treatments - Interview with Marco Boeri

As statisticians in the medical field, we're used to study subgroups of patients with respect to all kinds of biological variables: from demographics to genomics. This provides us with a good understanding of how the benefit-risk profile for a given patient looks like. However, the patient might have a completely different view on the importance of the different benefits and risks. And importantly, these preferences might be less driven by biologic factors and more by personal experiences and situations as well as psychological traits. How can we assess patient preferences in this regard? Marco Boeri and I worked on such questions in the past and some work has been presented at last year's PSI conference. Listen to this episode, to get insights into what's possible and how you can approach this problem.

Enjoy listening! Thanks **Alexander Schacht** for your tremendous leadership on the Effective Statistician series.

Toxicology Special Interest Group Free Webinars

The PSI Special Interest Group "Toxicology" have a series of regular FREE webinars dealing with statistical topics faced in toxicology and related fields. The presentations will run for an hour, with approximately 45 min presentation and a Q&A session in the remaining time.

The webinars planned for 2019 are:

- Tuesday 17th September 2019 – TBC
- Tuesday 10th December 2019 - TBC

All take place at 14:00 UK time. Full details will be released closer to each webinar, or contact Gareth Thomas (gareth.thomas@envigo.com) to be kept up to date on all ToxSIG activities.

PSI One day Scientific meeting: The analysis and reporting of PROs in Clinical Trials, 17th July 2019, Roche, Welwyn Garden City

Patient reported outcomes have become increasingly important in the development, approval and reimbursement of our products. The PSI Scientific Committee have put together this one-day meeting to provide statisticians with introductions to PROs, how to include them in clinical trials, considerations about missing data, appropriate statistical methods to analyse and interpret the data and the perspective of an IQWiG assessor. Presenters will give their insight into discussions with colleagues, working groups and regulators and there will be plenty of opportunity to ask any questions you may have about PROs in your development program. Click here to register.

Webinar: The RSS & PSI's Journal Club: Survival Analysis, 11th July 2019, 16:00 - 17:30 UK time

Join us in our discussion on survival analysis method with focus on the application of two Bayesian methods for time to event data at 4pm (BST) on Thursday 11 July. Our two presenters are Peter Thall from MD Anderson and Kyu Lee from Harvard. The discussants are: Axel Gandy, Imperial College London (RSS discussant) and Neby Bekele, Gilead Sciences (PSI discussant).

· (PSI) 'Bayesian nonparametric statistics: A new toolkit for discovery in cancer research' by Thall et al - https://onlinelibrary.wiley.com/doi/full/10.1002/pst.1819
· (RSS) 'Bayesian semiparametric analysis of semi competing risks data: investigating hospital readmission after a pancreatic cancer diagnosis' by Lee et al - https://rss.onlinelibrary.wiley.com/doi/10.1111/rssc.12078

The webinar is sponsored by Wiley who will make both papers free to access for a few weeks before and after the webinar. Click here to register.

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Training Course: Improving Influence and Increasing Impact: Communication Skills for Industry Statisticians, 16th September, UCB, Brussels

This 1-day course will lead participants through steps to focus on improving the key skills of making impactful verbal and written communications. It is designed to be interactive and lively, with a focus on the statistician rather than the statistics and will include workshops to practise the skills and behaviours discussed. Topics include: preparing posters, tips for written reports/abstracts, preparing and delivering presentations, effective team communication and key roles, and delivering negative messages to teams with positive impact.

SSL (Finland)

SSL had their Yearly Spring meeting at the end of May. The topics presented included:

-Activities and the value of EFSPI
-The Statistician's role at PerkinElmer
-CDISC implementing case study by Orion Pharma

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Other events

5th International Clinical Trials Methodology Conference (ICTMC) : 6th-9th October 2019 in Brighton

This event promises to be a unique opportunity for those working in clinical trials to meet and discuss the current issues within trials and trials methodology. The event will showcase the very latest in trials methodology research and offer plenty of valuable opportunities for networking. The Conference will also mark 10 years since the Network of Hubs for Trials Methodology Research began in 2009.

Following a record number of abstract submissions, we hope to announce the programme early next month. The **Early Registration reduced rate deadline is 8th July**. Please see the ICTMC webpage here for all the details.

Group Sequential and Adaptive Clinical Trial Designs

The German Region of the International Biometric Society (IBS) is holding a summer school on Group sequential and adaptive clinical trial designs, 17-19 October 2019 in PfalzAkademie, Lambrecht, Germany. This summer school introduces group sequential and adaptive designs, and also covers advanced topics. The theory will be illustrated with case studies from the pharmaceutical industry. Each module of this course includes a computer practical. We will use the R software package rpact (R Package for Adaptive Clinical Trials, https://www.rpact.com/), a validated, comprehensive and freely available package for the design, simulation and analysis of group sequential and adaptive trials. More information can be found on the EFSPI website. Please register through this link.

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Job Opportunities

There is an opportunity for a Senior Biostatistician. For information on how to submit recruitment adverts, please visit the EFSPI website: Job postings. If you are currently seeking to hire a statistician and wish to post a job advert, EFSPI are offering one free advert for every 3 adverts posted on the website.

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The World of Statistics

The World of Statistics is comprised of 2, 360 organisations across the globe. Participating organizations in The World of Statistics include national and international professional statistical societies, colleges and universities, primary and secondary schools, businesses, government statistical agencies, and research institutes. You can view the current participant and country lists involved in the World of Statistics by going to The World of Statistics website http://www.worldofstatistics.org/.

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To view previous newsletters please see the EFSPI website in the "News" area.

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