

Meeting report series

Report of the 15th Diagnostics Scientific Committee Meeting

Teleconference
October 30, 2018

Participants

Prof Kym Boycott, Ottawa, Canada – Chair
Assoc Prof Gareth Baynam, Perth, Australia – Vice Chair
Dr David Adams, Bethesda, MD, USA
Dr Sarah Bowdin, Cambridge, UK
Prof Anthony Brookes, Leicester, UK
Prof Kenjiro Kosaki, Tokyo, Japan
Prof Gert Matthijs, Leuven, Belgium
Prof Jürgen Reichardt, Urcuquí, Ecuador
Prof Francois van der Westhuizen, Potchefstroom, South Africa
Dr Feng Zhang, Cambridge, MA, USA

Dr Anneliene Jonker, Paris, France
Dr Lilian Lau, Paris, France
Dr Anne-Laure Pham Hung d’Alexandry d’Orengiani, Paris, France

Apologies

Prof Xavier Estivill, Doha, Qatar
Dr Mengchun Gong, Fudan, China
Prof Fowzan Sami Alkuraya, Riyadh, Kingdom of Saudi Arabia
Adj Prof Ann Nordgren, Stockholm, Sweden
Prof Ratna Puri, New Delhi, India
Prof Yiming Wang, Shenzhen, China

Agenda

1. DSC membership
2. Task Force update
3. Strategic planning for 2019/2020
4. Any other business

REPORT

1. DSC membership

1.1 New members and roundtable of attendees

- ▶ Kym Boycott is Professor of Pediatrics at the University of Ottawa and has been Chair of the Diagnostics Scientific Committee (DSC) for six years. She has been involved in rare disease national research platforms in Canada for a decade.
- ▶ Gareth Baynam, Vice Chair of the DSC, is a clinical geneticist and Director of the Undiagnosed Diseases Program in Western Australia and also works in genomic policy.
- ▶ Anthony Brookes is a Professor of Genomics and Bioinformatics at the University of Leicester, UK. He is co-coordinator and IT lead in the Solve-RD Consortium, and has various IT activities in the EJP on rare diseases. His personal interests revolve around data sharing and how to make data findable/discoverable, as part of the FAIR paradigm.
- ▶ David Adams, who recently joined the DSC, is a clinical geneticist at the National Institute of Health (NIH) in the US. He has particular interest in undiagnosed diseases, data sharing and re-analysis of clinically-negative genomic exomes study.
- ▶ François van der Westhuizen is a Professor of Biochemistry and medical scientist at the North-West University in South Africa, a reference center for metabolic diseases.
- ▶ Gert Matthijs works at the Centre for Human Genetics in Leuven, Belgium, where he directs the diagnostics laboratory. His interest lies in introducing genomics into healthcare, and more precisely, into public healthcare that would benefit everyone.
- ▶ Jürgen Reichardt is at the Yachay Tech University in Ecuador and has had a long interest in genetic variation. He also represents the Human Variome Project on this committee.
- ▶ Kenjiro Kosaki runs the Undiagnosed Diseases Program at the Data Centre for the National Undiagnosed Disease Program in Tokyo, Japan. His interests are in broad international collaborations.,.,
- ▶ Sarah Bowdin is a clinical geneticist, located in Cambridge, UK. She was previously located in Toronto for 9 years and is interested in using genomics to solve clinical diagnostic questions.

1.2 DSC nominations

- ▶ Scientific committees are composed of approximately 15 members, with a certain degree of flexibility (\pm 2-3 members)
 - There are currently 16 members in the DSC
- ▶ Some members will be leaving in 2019
 - 3 members will have all reached the end of their mandate by early 2019
 - 2 members' first mandates will come to term in January 2019
 - Renewal of their mandates is envisaged
- ▶ A recent call for DSC nominations resulted in a list of potential future members, and their candidacies were reviewed during this call.

- ▶ Agreement on the next steps of action:
 - 3 selected candidates will be contacted for their interest in becoming a DSC member
 - If yes, their candidacies will go to the Consortium Assembly (CA) for approval
 - The remaining candidates may be considered for future openings
 - These candidates may also be contacted for upcoming Task Forces

→ *Contact selected individuals and gauge their interest in joining the DSC*

1.3 Chair/Vice Chair election

- ▶ Chair of the DSC
 - Kym's DSC mandate will end in February 2019, and with it, the Chairmanship
 - As her mandate has already been renewed, she has reached the allowed maximum of two terms on the DSC; she will be able to continue participation through Task Forces
- ▶ The position of Chair is therefore open for election, and the process below will facilitate a comfortable transition period:
 - Mid-November: Call for nominations
 - Early-December: Voting period
 - Mid-December: Announcement of new Chair (and Vice Chair¹) of the DSC
- ▶ Self-nominations are ideal; nominations will be sent to all members for consideration and vote
- ▶ Responsibilities of the Chair and Vice Chair are:
 - Together with the DSC, scan the landscape and identify gaps that could be developed into activities and therefore Task Forces
 - Call meetings and preside over the activities of the DSC
 - Lead and/or supervise the activities of the Task Forces
 - Participate in the IRDiRC Operating Committee (Op Comm)
 - Represent the DSC at the IRDiRC Consortium Assembly (CA)
 - Represent IRDiRC at international meetings and present on IRDiRC's behalf
 - Note: these tasks can be shared between the Chair and the Vice Chair
- ▶ Time commitment for the position of Chair and/or Vice Chair
 - DSC: 1 face-to-face meeting and 2-3 teleconferences per year
 - Op Comm: monthly 1-hour teleconference
 - CA: 2 face-to-face meetings (1 usually back-to-back to the DSC face-to-face meeting) and 2-3 teleconferences per year
- ▶ Both current Chair/Vice Chair are willing to share their experience and speak individually to member(s) interested in the position(s)

→ *Launch the call of nominations for the vacant position(s)*

→ *Interested DSC members to send in nomination for the vacant position(s)*

¹ Should the Vice Chair run for the position of the Chair, then the Vice Chairmanship will also open for candidacy.

2. Task Force (TF) updates

2.1 Solving the Unsolved

- ▶ This TF was set forward to examine best research practices for patients who are unsolved after exome sequencing (e.g., no viable-looking candidate gene or variant)
- ▶ A workshop was held in March 2018, with international expertise in different technologies that may be used to investigate an unsolved patient who has a high likelihood of having a genetic condition
- ▶ The outcome of that workshop provides an overview of the research landscape in that regard and will soon be finalized for publication

2.2 Under-represented Populations

- ▶ The majority of the world's population is currently outside of the perimeter of diagnostic application and this issue needs to be addressed in order to reach Goal 1 of IRDiRC
 - The DSC is proposing a TF focusing on under-represented populations, in particular indigenous communities
- ▶ Draft proposal and next steps
 - A draft proposal has been sent to all members for review and feedback
 - DSC members were asked to please do so before the end of November
 - The proposal will also be reviewed by the OpComm members
 - The proposal will be subsequently presented to the CA at their next meeting in Brussels
 - If approved, call for nomination of experts to join the TF will be made
 - The TF will be launched shortly thereafter
- ▶ Initial comments:
 - The Ecuadorian government has decided to finance a Genetics and Genomics Network. The funds will run for a year and can be of interest for this TF proposal, as it aligns with the scope of this Activity
 - Suggestion to set up a “mirror group”, a forum of different people that would represent the first audience to be interested in and actually benefit from the actions of the TF

→ *Review proposal and send in comments/suggestions, as the finalized version of the TF proposal needs to be ready for the CA's review by the end of November*

2.3 Clinical Data Sharing

- ▶ This TF has been approved by the CA but not yet launched
 - Decision remains to be made around what particular aspect(s) of this challenge for the TF to focus on
 - In Vienna, members agreed to wait for the Global Commission to produce its deliverable (February 2019)
 - From the Global Commission's report, we will identify gaps that this TF could focus on to avoid any duplication of efforts

- ▶ Ideas of areas/challenges that might be addressed by the work of this TF:
 - National strategies/infrastructure for clinical data sharing:
 - Most countries do not have a national mandate to address this question (e.g., fragmented healthcare system in the US and Canada forms a barrier to clinical data sharing)
 - The IT infrastructure of the National Genomic Test Directories in the UK is currently being sorted out
 - Once these questions are addressed at national level, how can IRDiRC globally connect to that? This TF could potentially focus on national infrastructures coming together to share data
 - Common data elements for international data sharing:
 - What data could be shared? What is allowed to share on a legal aspect?
 - To reach IRDiRC's first goal, the data shared would be for research
 - The federated system of Matchmaker Exchange was able to address some of these challenges, and it is possible to share deeper data for discovery as there are research consents
 - Addressing obstacles in a clinical workflow is another area that could be addressed
 - Another approach to the problem could be to address the challenges from a disease-specific aspects and not more generally and by geography
 - Existence of 24 European References Networks
 - Develop their own database for a disease's area
 - Could allow to reach out beyond Europe
 - Follow the European Joint Programme (EJP) RD to see if they address these issues

2.4 Carrier Screening state-of-play

- ▶ There is an interest for a Carrier Screening TF, but currently no manpower to launch a new TF
- ▶ A state-of-play paper is planned, which could be the basis for a future TF
- ▶ The expertise of all DSC members is needed to provide information from their own jurisdiction

3. Strategic planning for 2019/2020

- ▶ For 2019/2020:
 - The Under-represented Populations TF, if approved shortly, will be the major TF of 2019 for this committee
 - The Clinical Data Sharing TF will also run between 2019/2020
- ▶ Any additional suggestion of activity/TF that should be undertaken by the DSC is welcomed
 - In general, realistic to operate one TF per year
- ▶ For future work, we must bear in mind the structure of the EJP and thus Sci Sec's manpower and support
 - Sci Sec will be, from January 2019, under the EJP coordination
 - EJP work plan and resources allocation are developed on a yearly basis

- All future demands must be developed and finalized by May-June of year x, for execution in year x+1 (e.g., May-June 2019, for execution in 2020)

4. Any other business

- ▶ EMBO Molecular Medicine article
 - An invited overview of rare disease research in the context of international collaborative actions was submitted
 - This paper gives a good overview of IRDiRC's actions – useful for new members
 - The submitted article was circulated to all members of the DSC as meeting preparatory document
- ▶ American Journal of Medical Genetics Part C: Seminars in Medical Genetics
 - Special issue in December 2018 will address a set of unsolved yet recognizable malformation syndromes
 - In the introduction, IRDiRC's goals are mentioned
- ▶ Rare disease and gene counting
 - A teleconference was held to discuss the counting of rare diseases and diseases-causing genes and how to harmonize this internationally
 - Different initiatives are currently underway
 - Will only observe development for the time being
- ▶ Call from Nature Genetics
 - Invitation of pre-submission enquiries for Articles, Perspectives and Analyses on human, animal, plant and microbial genetics and genomics from Africa: <https://www.nature.com/articles/s41588-018-0277-7>
 - Interested DSC and/or IRDiRC members may submit ideas of papers and include IRDiRC's actions in it

Main deliverables

- ▶ Contact selected DSC nominees to gauge interest in joining the DSC
- ▶ Launch call for nominations for DSC Chair and/or Vice Chair
- ▶ Review and send comments/suggestions on the proposal of Under-represented Populations TF