

Inter-Society Coordinating Committee for Practitioner Education in Genomics In-Person Meeting

April 23, 2014

Bethesda, Maryland

Welcome, Introduction, Goals of Meeting, Current Status of ISCC Work Products and Plans – Anna Berry and Teri Manolio

The Inter-Society Coordinating Committee (ISCC)'s overarching goals include the gathering and dissemination of best practices and resources in genomics education, the identification of advances in genomic science that will require new educational initiatives, the identification of gaps to be filled in professional genomics education and knowledge, and the identification of genomics education needs that are common amongst professions and specialties. Since its founding, the ISCC and its four working groups (WGs) have published a white paper on the role of professional societies in genomic education, formulated Entrustable Professional Activities (EPAs) expected of generalist physicians in genomic medicine, compiled and reviewed a wide range of educational products, created a template and example of genomics use cases, and engaged the specialty boards of Ophthalmology and Family Medicine in the ISCC's activities. At this meeting, the ISCC celebrates the launch of physician-specific educational materials to the Genetics/Genomics Competency Center for Education (G2C2) website. Possible outcomes of this meeting include more active involvement of specialty societies, better engagement of societies' educational components, new sources of administrative and fiscal support, and expansion of the ISCC to Canada or potentially the rest of the world. New educational structures, such as the American Medical Informatics Association (AMIA)'s web-based "10x10" initiative, may be discussed as potential educational models. Kate Reed noted that it may be useful to identify groups willing to implement particular educational programs as test cases, and provided the example of the American Medical Association (AMA)'s partnership with El Camino hospital.

Review of Educational WG Products on G2C2 – Jean Jenkins

Physician-specific genomics educational materials are currently available for ISCC members to review on the G2C2 website. The addition of items linked to these resources was discussed, with agreement that links to both a PubMed abstract and a full-text PubMed article where available would be useful for physicians. Jean will make sure that each resource on G2C2 has a description, PubMed abstract, and link to a full-text PubMed article **[ACTION]**. The group agreed that the G2C2 website should eventually target the general public as well as healthcare professionals, and the creation of a user view for the general public may be considered in the future. Jean will identify which of the ISCC's competencies on G2C2 currently have few associated resources (she mentioned family history and professionalism) and could thus benefit from specialty societies' input, and will report these facts on the next ISCC call **[ACTION]**. Although a variety of "marketing" and social media approaches could be used to publicize the new resources, the group agreed that a quieter initial launch may allow for unexpected problems to be dealt with. Jean noted that it would be helpful to have two physicians join the G2C2 editorial board similar to participation of other professions. The group also noted that at present the physician G2C2 site is not very end-user friendly, being organized and annotated with competency tags that are likely unfamiliar to them. Jean noted that it was designed more for educators looking for resources to teach

to a given competency rather than end-users; this will need to be modified if we ultimately plan to refer practitioner end-users to it.

The group voted that the G2C2 website should be soft-launched once Bruce Korf has confirmed that the Competencies document can be uploaded to the website prior to its publication in *Genetics in Medicine* [ACTION]. After this presentation, Bruce confirmed that the Competencies document would be published on Friday, April 25th, 2014. The group agreed that the listing of ISCC member organizations should be maintained on the G2C2 page.

Potential collaborative opportunities with Canadian professional societies – Paul Lasko

Paul noted that the Genetics Institute of the Canadian Institutes of Health Research, of which he is Scientific Director, is akin to NHGRI as part of NIH and is very active in the rare disease research community. Orpha.net is a Canadian resource for rare diseases and orphan drugs which targets all audiences. Care for Rare (C4R) is a pan-Canadian program aimed at diagnosing rare diseases and developing new therapies and has a collaboration with “NowGen” in the UK permitting a potential indirect link to the UK. C4R has a series of telehealth lectures plus one-week lab-based sessions, and engages several committees of the Canadian College of Medical Genetics. The Canadian Royal College of Physicians and Surgeons administers a monthly TELEGRAF curriculum for MD and PhD trainees and plans to share its expertise with other subspecialties; links could be made with the ISCC as well.

There are clear opportunities for, and advantages of, collaboration between the ISCC’s societies and Canada professional organizations. The group was enthusiastic about engaging Canadian groups in ISCC working groups and related efforts by working through Paul. Jean and Paul will discuss linking to G2C2 from oprha.net [ACTION]. Paul will investigate whether American CME-certified materials will be acceptable for Canadian certification [ACTION]. Paul will serve as the link from the Canadian College of Medical Genetics and Jean will represent the American counterpart. Mike Hagen from the American Board of Family Medicine (ABFM) and June Carroll from the College of Family Physicians of Canada will similarly work to build ties between their organizations related to genetics [ACTION]. Paul will ask Canadian family medicine representatives to join ISCC calls, and Jean will ask Canadian family medicine representatives to share materials with her for G2C2 [ACTION].

Genomic content and educational needs of Am Board Family Medicine – Michael Hagen

The ABFM has recently developed competencies for genomic medicine, including understanding genomic concepts, interpreting testing, and applying genomics to patient management. They appreciated receiving a copy of the ISCC’s EPAs and noted that they should add microbial genomics. Diplomates are required to complete a self-assessment module (SAM) during each three-year stage of the maintenance of certification (MOC) process. A genomics-focused SAM is under development; questions in this SAM are organized by specific genomics competencies. The expected deployment for this SAM is the first quarter of 2015. The ABFM shares SAMs with all family physicians including the American Academy of Family Physicians (AAFP), but explicit exam content is not shared with the AAFP to prevent conflicts of interest. Once the SAMs are test-run they will be made available to other members of the ABMS. The motivation for developing this new genomics content was feedback from their

diplomates, who are increasingly faced with DTC testing such as 23AndMe and Ancestry.com from their patients and need help in responding to them.

Genomic content and education needs of the Am Dental Assoc and other dental organizations – Tom Hart

There are educational gaps in genomics throughout the dental training pipeline, including pre-dental undergraduate study, dental school training, and post-graduate continuing education in dentistry. At all levels there is a bias towards Mendelian genetic conditions and less emphasis on complex genetic traits, of which many have dental findings. The Commission on Dental Accreditation (CODA), which accredits dental schools, is moving towards case-based learning which may be amenable to collaborative development with ISCC initiatives, such as G2C2. Tom emphasized the importance of increasing genomics awareness and education throughout all levels of dental training. One notable challenge that dentists are facing is direct-to-consumer genetic testing of SNPs for complex genomic traits. These tests may lead to overtreatment or a false sense of risk. Possible areas of future collaboration between dental groups and other ISCC representatives include an oral microbiome project led by Murray Brilliant of the Marshfield Clinic that grew out of the second genomic medicine meeting, and the known pharmacogenomics applications related to pain relief and excessive bleeding seen frequently in routine dental practice.

Review of ISCC description, mission, and goals – Teri Manolio

Several important changes were made to the ISCC charge document, including an understanding that “practitioners” should be inclusive of both trainees and those who have finished residency training as both groups would benefit from ISCC attention. Teri Manolio will send this updated document to the ISCC to facilitate further clarification and improvement [ACTION].

Dealing with Commercial Bias – Steve Singer

Steve Singer noted that anyone involved in a financial relationship with an organization that produces, markets, re-sells, or distributes health care products may lead to conflicts of interest if that person can control the content of Continuing Medical Education (CME) credits. The incentive to increase the value of that relationship may develop. To prevent conflicts of interest, the ACCME advises that professional need, not funding, drive CME content. Additionally, educational content must be provided and verified by members of the profession and not corporate sponsors. Finally, relationships with corporate sponsors must be revealed. The group discussed the possibility of creating a sub-group within the ISCC to handle issues of content independence and verification.

Proposals of ISCC sustainability – David Williams

As David has previously presented from a survey of ISCC members, there is strong enthusiasm for sustaining the ISCC. Funding from federal, philanthropic, and industry grants was preferred as the major source of funding, while funding from dues, licensing, and fee-for-service activities was preferred as a minor funding source. Prospective industry stakeholders include health plans/pharmacy benefit managers, pharmaceutical companies, and genetic testing companies. There was widespread

enthusiasm for maintaining the ISCC's current initiatives as well as for expanding into new areas over the next three to five years.

Bruce noted that the ISCC should determine the extent and goals of its future operations in formulating requests for support. Kate Reed mentioned that prospective funders, such as specialty societies, want evidence of effective content development and are more likely to pay for initiatives which are backed by evidence supporting their efficacy. Teri noted that it would be useful to develop a template or talking points ISCC representatives might use in approaching their home organizations for funding support. Teri and Laura will work with David Williams on developing these talking points **[ACTION]**.

Specialty Boards WG Report – Nancy Rose

Major goals of the Specialty Boards WG include working with the American Board of Medical Specialties (ABMS) on cross-board genomics content and reaching out to individual specialty societies to discuss the development of their genomics content. The AAMC (Association of American Medical Colleges)'s MedEd portal (mededportal.org) is a repository for peer-reviewed publications, and since the AAMC is an Associate Member of the ABMS, this may in the future serve as a resource for cross-specialty genomics information. Additionally, it may be possible for the MedEd portal to provide genomics-based CME. There is currently discussion to determine constructive overlaps between the Accreditation Council for Graduate Medical Education (ACGME)'s Heme/Onc Genomic Curricular Milestones, an educational paradigm for resident-based training, and the ISCC's EPAs. This WG has successfully reached out to the American Academy of Ophthalmology (AAO), the ABFM, and the American Dental Association (ADA). This WG is currently strengthening ties with representatives from these specialty societies to facilitate greater sharing of educational genomics information.

Use Cases WG Report – Mark Williams

Marc Williams welcomed Katrina Gwinn as the new co-chair for this WG. The current use cases under development address Lynch syndrome, hearing loss and aminoglycoside exposure, smoking cessation, PKU, and dental topics. Two additional use cases from the Association for Molecular Pathology (AMP) are in an early stage of development. Marc noted that use cases should be developed by individual specialty societies with relevant adjustments, made by that society, so that a particular use case best addresses the concerns and requirements of that society's specialty. The group discussed adjusting the terminology of "use cases" to "case studies."

Marc noted that long-term stewardship of use cases requires that every use case be "adopted" and maintained by a specialty society. The American Heart Association, the American College of Cardiology, the American Thoracic Society, and the American Society of Clinical Oncology expressed interest in adopting the smoking cessation use case developed by the National Institute on Drug Abuse; Joni will follow up with Rose Marie Robertson to pursue this.

Competencies WG Report – Bruce Korf

The definition of a competency can be understood as "the ability to do something successfully." The ACMGE lists six Core Competencies for practitioners, including Patient Care, Medical Knowledge,

Practice-Based Learning and Improvement, Systems-Based Practice, and Interpersonal Skills and Communication. The ISCC's EPAs are described as a framework for the development of genomic competencies by individual societies. The WG anticipates that each specialty group will tailor the EPAs to their own needs, and thus create their own competencies. The ISCC's EPA document will be published in *Genetics in Medicine* on April 25th, 2014. The EPA document will be hosted on the G2C2 website, and will be updated as needed.

Educational Products WG – Bob Roberts and Jean Jenkins

Most of the WG's report was provided in the discussion of the G2C2 website above. Additionally, Jean will speak with the G2C2 website contractor to determine the G2C2 launch date **[ACTION]**.

Blue Cross/Blue Shield Reimbursement and Genomics – Trent Haywood

Blue Cross/Blue Shield (BC/BS)'s customers are interested in genetic testing, and the company must account for this fact in their business model. BC/BS's 37 plans are integrating provider education on the appropriate uses of genetic testing later this year. BC/BS is actively considering the role it will play in medical, research, and data management. This may include helping consumers make a decision based on which genetic testing information has been proven to be useful. Trent noted that the health insurance marketplace is already making decisions on the role that genomics will play, and if the ISCC would like to participate, this participation is needed soon.

Illumina and the ISCC – Frank Ong

Frank Ong discussed Illumina's willingness to support the efforts of the ISCC's members and stakeholders in providing medical education in the area of genomic and precision medicine through appropriate vehicles according to ACCME guidelines, such as unrestricted medical education grant proposals. ISCC members interested in speaking with Frank Ong should email him at fong1@illumina.com **[ACTION]**.

Potential CMS-relevant content for practitioner's education – Sarah Harding

The Centers for Medicare & Medicaid Services (CMS) review evidence for coverage and reimbursement and may have evidence reviews or other materials of potential educational value to the ISCC. The most frequent question that the receives is: "Why was my test denied?" A test must be legal, fit into a specific diagnostic category, be reasonable and necessary, and have associated coding and payment instructions to be paid by Medicare. Any ISCC member who wishes to comment on the revamped Clinical Laboratory Fee Schedule provided by the Protecting Access to Medicare Act of 2014 may submit these comments to Sarah prior to CMS' date for acceptance of public comments.

Next Steps – Teri Manolio

All ISCC members should review the G2C2 website and send usability comments to Jean by April 30th, while comments concerning content should be sent to Jean by mid-May **[ACTION]**. Social media, such as Facebook and Twitter, may be used to publicize G2C2 after the launch. ISCC members welcome the involvement of Canadian, Family Medicine, Ophthalmology, and Dental specialty society members to the ISCC's WGs. Teri and Laura will engage with David Williams to develop talking points to aid

representatives when seeking support from their respective societies, and will revise the charge and goals document for review by the group. Increasing the diversity of the ISCC would be advisable, as would strengthening the ISCC's focus on health disparities. The Use Cases WG will discuss changing its name to better reflect their purpose and address the audience of medical professionals **[ACTION]**.

This is a critical juncture for the ISCC; society representatives need to take an active role in developing specialty-specific competences and use cases if the effort is to continue. ISCC members agreed to pursue the following with their societies: 1) Informing them of the G2C2 website, 2) Engaging their educational components, 3) Producing specialty-specific competencies and use cases, and 4) Requesting funding for the ISCC from their societies' leadership.

Potential future activities include 1) testing educational products through early adopter institutions such as El Camino, 2) Engaging genetics training programs to produce and maintain use cases, and 3) Engaging BC/BS for ISCC evidence reviews and to support ISCC sustainability.

Action Items

1. Jean will make sure that each resource on G2C2 has a description, PubMed abstract, and link to a full-text PubMed article.
2. Jean will identify which of the ISCC's competencies on G2C2 currently have few associated resources (she mentioned family history and professionalism) and could thus benefit from specialty societies' input, and will report these facts on the next ISCC call.
3. The group voted that the G2C2 website should be soft-launched once Bruce Korf has confirmed that the Competencies document can be uploaded to the website prior to its publication in *Genetics in Medicine*.
4. Jean and Paul will discuss linking to G2C2 from oprha.net.
5. Paul will investigate whether American CME-certified materials will be acceptable for Canadian certification.
6. Paul and Jean will discuss how to build ties between the Canadian College of Medical Genetics and the American College of Medical Genetics.
7. Mike Hagen from the American Board of Family Medicine (ABFM) and June Carroll from the College of Family Physicians of Canada will similarly work to build ties between their organizations related to genetics.
8. Paul will ask Canadian family medicine representatives to join ISCC calls, and Jean will ask Canadian family medicine representatives to share materials with her for G2C2.
9. Teri Manolio will send this updated document to the ISCC to facilitate further clarification and improvement. **[DONE]**
10. Teri and Laura will work with David Williams on developing talking points that ISCC representatives might use in approaching their home organizations for funding support.
11. Jean will speak with the G2C2 website contractor to determine the G2C2 launch date.
12. ISCC members interested in speaking with Frank Ong should email him at fong1@illumina.com

13. All ISCC members should review the G2C2 website and send usability comments to Jean by April 30th, while comments concerning content should be sent to Jean by mid-May.
14. The Use Cases WG will discuss changing its name to better reflect their purpose and address the audience of medical professionals.