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Employing best practices for a genomics education program

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GECKO
Genetics Education Canada: Knowledge Organization
Centre d'éducation en génétique canadien: Connaissances organisées

Introduction

- Genomic medicine (GM) is increasingly used for diagnosis and risk prediction of complex disorders
- Primary care providers (PCPs) are key to GM implementation
- Efforts are needed to equip PCPs with GM resources. Genetics Education Canada: Knowledge Organization (GECKO) is an example of employing best practices for GM education

Objective

To describe a program logic approach to development, dissemination and evaluation of a genomics education program for PCPs

Methods and Results

We employed a program logic model[1] grounded in adult learning theory to map out GECKO's design, implementation and evaluation.

Ongoing stakeholder engagement (primary care providers, genomic health professionals, specialists)

Plan

Awareness of education needs and preferences[2]

- Needs assessment of Ontario family physicians (n=361) showed low confidence in most GM competencies, especially newer areas e.g. direct-to-consumer testing
- Genetics clinic contacts, summaries of genetic disorders, referral/testing guidelines, and point of care tools were highly rated

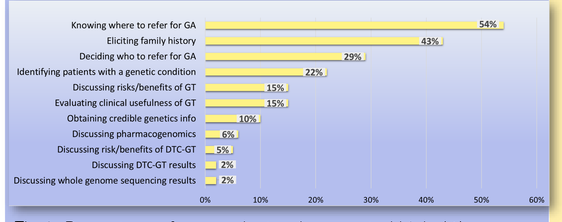


Fig 1. Percentage of respondents who reported high (4) or very high (5) confidence in GM competencies on a 5-point Likert scale.
[GA –Genetic assessment; GT – Genetic testing; DTC – Direct-to-consumer]

Genomic medicine resource for primary care practice	*Percentage of respondents rating resource as useful or very useful*
List of genetics clinics and contact details	89%
Genetic testing guidelines	86%
Genetic disorder summaries	86%
Genetic referral guidelines	85%
Disease-specific risk assessment tools	81%

Fig 2. Top 5 GM resources for practice rated by respondents as useful(4) or very useful (5) on a 5-point Likert scale.

Develop

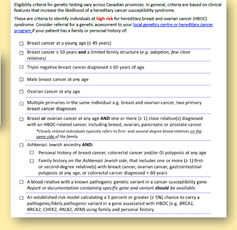
Highlights of GECKO resources for PCPs

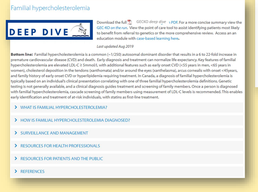
The most up-to-date directory of Canadian genomics centres including links to referral forms and criteria.

GECKO *on the run*
Concise summaries of a genomic disorder, technology or topic.

GECKO
Genetics Education Canada: Knowledge Organization
POINT OF CARE TOOL

Point of care tools





GECKO
Genetics Education Canada: Knowledge Organization
DEEP DIVE

GECKO *deep dive*
Comprehensive summaries of genomic disorders, technologies or topics.

Evaluate

Evaluation is ongoing and continuous

- Evaluation activities are varied and include research projects, evaluations of seminars at accredited CE events, and website walkthrough with convenience samples to provide real-time feedback on the site and resources

Highlights of evaluation of genomic resources similar in format to GECKO *deep dive* that the GECKO team developed for a randomized control trial

- Over 90% of respondents (n=1,402) wanted to continue receiving GECKO educational materials and would recommend to colleagues[3]
- A significant increase in appropriate referral to genetics based on clinical vignettes (6.4/10 control; 7.8/10 intervention) and in self-reported confidence on core genetics competencies (37.9/55 control; 47/55 intervention) was observed[3]
- Following review of GECKO resources in an email 'push' model to family physicians, participants indicated that:[4]

Their practice would be improved after reading GECKO resources (73%)
A resource would apply to at least one patient (94%)
They would expect health benefits (79%)
They want to continue to receive these genomic resources (94%)

Deliver

- The main dissemination of GECKO products is through the website www.geneticseducation.ca
- Analytics are captured to monitor access and use

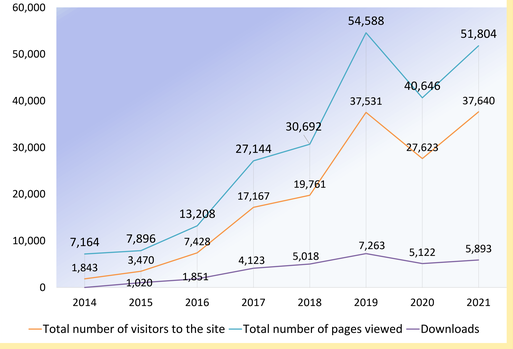


Fig 5. GECKO site analytics for January 1- December 31 of each labeled year. Note marked impact of COVID on site use. Analytics for current year projecting a return to increased awareness and use (Jan 1- June 2022, show 20, 725 visits, 27,981 page views, 3,158 downloads).

Successes

- Integrating into existing education venues
- Resources that are brief, evidence-based and relevant to practice
- Incorporating stakeholder feedback
- Being flexible and responsive

Challenges

- Competing demands for clinician time and education priorities
- Implementation into practice
- Dissemination
- Evaluation

Conclusion

Using a program logic model provided clear purposeful direction and enabled GECKO to develop and evaluate genomic educational resources for PCPs.

Future

- Formal launch of GECKO resources to increase awareness
- Partner with larger organizations for funding and dissemination support
- Development and evaluation of innovative resources e.g. eModules, social media

Supported by:

GECKO Genetics Education Canada: Knowledge Organization
CHEO
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uOttawa

REF: 1. Nisselle *et al* Front Genet 2019; 2. Carroll *et al* Front Genet 2019; 3. Carroll *et al* FamPract 2011; 4. Carroll *et al* JCEHP 2016

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