



## Small TLEF Project – Final Report

Report Completion Date: (YYYY/MM/DD)

### 1. PROJECT OVERVIEW

#### 1.1. General Information

Project Title:	Teaching Medical Genetics and genomics, a challenging theme for many students, online via integrated, patient centered modules		
Principal Investigator:	Linlea Armstrong		
Report Submitted By:	Linlea Armstrong		
Project Initiation Date:	April 2015	Project Completion Date:	June 2017

#### 1.2. Project Summary

1.3. Team Members – (Please fill in the following table and include **students**, undergraduate or graduate, who participated in your project).

Name	Title/Affiliation	Responsibilities/Roles
Tanjot K. Singh	Undergrad then Medical student	Management, module creation
Oscar Urtatiz	PhD student	module creation
Mike Hsiao	Undergrad student	module creation
Sam MacKinnon	Undergrad student	module creation
Caitlin Slomp	Masters student	module creation
Cynthia Yee	MD/ PhD student	module creation
Alan Zeng	MD/ PhD student	module creation
Genie	Undergrad student	Blog creation
A team of engineering students	Undergrad students	Worked on a pilot version of the blog
Osman Ipsiroglu	Faculty	Module content and review, set up the above students to work on the pilot version of the blog
Sylvia Stockler	Faculty	Module content and review
Tanya Nelson	Faculty	Module content and review



1.4. Courses Reached – Please fill in the following table with **past**, **current**, and **future** courses and sections (e.g. HIST 101, 002, 2017/2018, Sep) that have been/will be reached by your project, including courses not included in your original proposal (you may adapt this section to the context of your project as necessary).

Course	Section	Academic Year	Term (Summer/Fall/Winter)
MEDD 411		2016, 2017, going forward	fall
MEDD 412		2016, 2017, going forward	winter
MEDD 421		2017, going forward	fall

2. OUTPUTS AND/OR PRODUCTS

2.1. Please **list** project outputs and/or products (e.g. resources, infrastructure, new courses/programs). Indicate the current location of such products and provide a URL if applicable.

Product(s)/Achievement(s):	Location:
Module on Chromosomal Genetics	Medicol
Module on Single Gene Genetics	“
Module on Multifactorial Inheritance	“
Blog	“

2.2. Item(s) Not Met – Please list intended project outputs and/or products that were not attained and the reason(s) for this.

Item(s) Not Met:	Reason:



### 3. PROJECT IMPACT

**3.1. What were you hoping to change or where were you hoping to see an impact with this project? – Please list the intended benefits of the project for students, TAs, instructors and/or community members.**

Medical students find learning Medical Genetics and Genomics challenging. It is an emerging area with vast amounts of foundational knowledge and varied clinical applications. There are important ethical and attitudinal consideration. The professional care teams involved in caring for individuals with concerns are diverse, including doctors, genetic counsellors, nurses, laboratory scientists, community based patient and family advocacy groups. This theme is one in which the UBC MDUP curriculum renewal goal of integration had to be reached, to prepare our learners meet their future patients' needs. Our genetics and genomics team innovated to create a set of integrated, interprofessional and patient-centered modules to teach knowledge, attitudes and skills *in the context of patient care*. A team of individuals and families living with genetic disorders, learners, teacher, clinicians and other healthcare professionals came together in the design and production of the modules.

**3.2. Were these changes/impacts achieved? How do you know they occurred? – To what extent were intended benefits achieved or not achieved? What evaluation strategies were used? How was data collected and analyzed? You are encouraged to include copies of data collection tools (e.g. surveys and interview protocols) as well as graphical representations of data and/or scenarios or quotes to represent and illustrate key themes.**

The modules operate with a split screen, on the left, learners navigate and reason their way through the care of a virtual patient, as the patient (and at times the patient sample) progresses through a pathway of care, on the right of the screen, learners are offered opportunities to delve into resources which support development of core competencies (foundational biology aspects, ethical considerations, etc). Integrated within are prompts to watch videos and listen to podcasts of real individuals in the community affected by genetic disorders. We have now delivered the three modules.

Upon evaluation (formal study done in collaboration with the ESU, FOM), majority of the students found the modules to have enhanced their learning, found the virtual patient and cases from the community to be engaging and to have contributed positively to their learning.



**3.3. Dissemination** – Please provide a list of ***past*** and ***upcoming*** scholarly activities (e.g. publications, presentations, invited talks, etc.) in which you or anyone from your team have shared information regarding this project.

**Oral presentation CCME 2015, Oral presentations CHES Celebration of Scholarship 2015 and 2017**

**4. TEACHING PRACTICES** – Please indicate if ***your*** teaching practices or those of ***others*** have changed as a result of your project. If so, in what ways? Do you see these changes as sustainable over time? Why or why not?

**Yes, these are the way the students learn their foundational genetics and basic medical genetics. This allows for a “flipping” of our theme within the medical school. Students can then engage with faculty face time at a more complex level, ex. clinical reasoning, etc.**

**5. PROJECT SUSTAINMENT** – Please describe the sustainment strategy for the project components. How will this be sustained and potentially expanded (e.g. over the next five years). What challenges do you foresee for achieving the expected long-term impacts listed above?

**This was designed with sustainability in mind. The technological aspects will need to be maintained, and if there are updates in the field or if we wish to expand, we can do that relatively easily.**