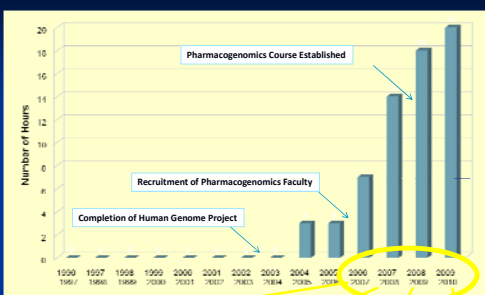


DESIGN OF A PHARMACOGENOMICS COURSE



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P-1 Pharmacogenomics Curriculum



Why am I teaching PGx?

- Education: MD; PhD in human genetics
- Postdoc training: Pharmacogenomics (3-year)
- Before joining Western U: Working at FDA/Division of Pharmacogenomics (1-year)
- Research interest

- Goal: to tell the story of PGx in a way that would be practical and interesting to the students

The Year of Start (2006-2007) Topics

Topics	Contact Hours
Introduction	1 hour
Fundamentals of medical genetics including terminology	1 hour
Approaches to pharmacogenetics/genomics -Human Genome Project -DNA microarrays	1 hour
Pharmacogenomics of drug metabolism and disposition	2 hours
Pharmacogenomics of drug transporters and targets	1 hour
Clinical considerations of pharmacogenetics/genomics	1 hour
Total	7 hours

The Year of Start (2006-2007) Outcome

Summary of student comments:

- ◆ A new subject that extended our knowledge.
- ◆ Important to introduce the evolving field of pharmacogenomics, which gave us insight on what we could expect in the future of medicine.
- ◆
- ◆ The subject is broad; the time allocated was insufficient.

The Year of Struggle (2007-2008) New topics added

- Genetic testing (1 hour)
- Bioinformatics (1 hour)
- PGx application in Oncology, Infectious diseases, Cardiovascular diseases, CNS/Psychiatry, Transplantation (5 hours)

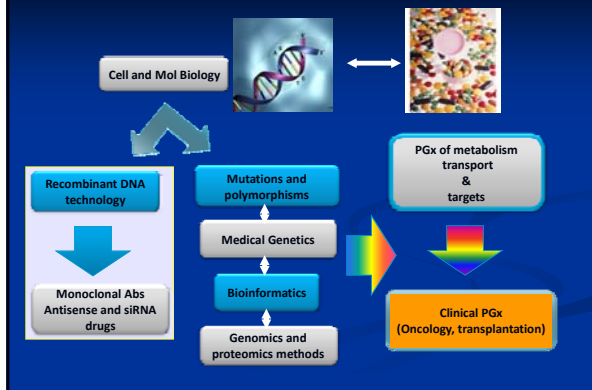
The Year of Struggle (2007-2008) Problems

- Too much materials for PGx in therapeutics
 - Need help from clinical faculty
 - Reduce to select disease fields
- Insufficient time for basic concepts
 - My time should be spent more on explaining basics
 - Adding more active learning strategies

The Year of Renewal (2008-2009)

- Basic topics expanded:
 - Before starting Biotechnology and PGx lectures, review key concepts of cell biology and mol biology
 - Focus on “Mutations and polymorphisms” (2 hours)
- Active learning components added:
 - Medical genetics exercises
 - Bioinformatics workshop
 - Case scenario and discussion
- Clinical faculty joined:
 - PGx in oncology (2 hours)
 - PGx in transplantation (2 hours)

The year of Maturation (2009-2010)



The Years of Future (2010 -)

- Increase depth by adding evolving topics: proteomics, metabolomics, and epigenetics
- Use new teaching models: evidence-based and practice-relevant learning methods; active learning methods
- Involve more clinical faculties (P-2 ~ P-4)
- Design ways to measure the short-term and long-term outcomes
