Strengthening applied genomic epidemiology. Embracing our present, designing our future, and learning from the past.

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The present
How can we improve capacity right now?

The future
How will we develop the next generation?

The past
Reflecting on previous issues to guide work now.

The present

Challenge: we need greater technical familiarity amongst public health personnel.

Recruit

- Stop saying we don't do research
- Emphasize creativity and implementation science

The present

Challenge: we need broad application of genomic analysis across infectious disease programs.

Recruit

- Stop saying we don't do research
- Emphasize creativity and implementation science

Retrain

- Consider the learner
- Build cross-team visibility and cohesive knowledge

Modular content, blending training and education, delivered conveniently.

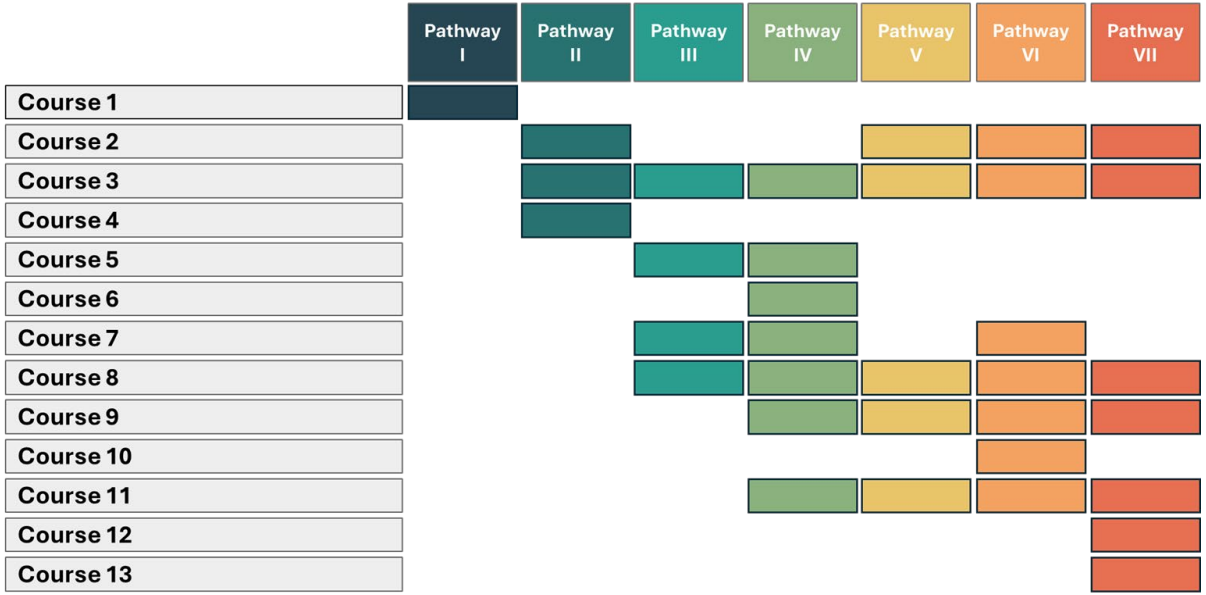

Figure adapted from Liz Heppenheimer, Education Lead PGCoE

The present

Challenge: we lose great people to industry and academia.

Recruit

- Stop saying we don't do research
- Emphasize creativity and implementation science

Retrain

- Consider the learner
- Build cross-team visibility and cohesive knowledge

Retain

- Develop new paths for professional development
- Keep looking forward

The future

Challenge: genomic epidemiology is frequently missing from epi and public health curriculum.

Graduate training in epi
(e.g. MPH)

Post graduate fellowships
(e.g. EIS, CSTE)

School of Public Health Core Curriculum

+

EPID 504 Polymicrobial Communities Laboratory

EPID 582 Molecular Epidemiology

EPID 680 Hospital Epidemiology I

Choose one of the following (Infectious):
EPID 505 Polymicrobial Communities in Human Health and Disease
EPID 507 Microbial Control: Sterilization, Disinfection And Manipulation
EPID 513 Vaccine in Public Health
EPID 525 Clinical and Diagnostic Microbiology
EPID 543 Epidemiology of Viral Diseases
EPID 560 Mechanisms of Bacterial Pathogenesis

Choose one of the following (Pathogenesis and Genetics/Genomics):
EPID 512 Biologic Basis Of Disease
EPID 515 Genetics in Public Health
EPID 516 Genomics in Epidemiology
EPID 621 Cancer Epidemiology
BIONINFO 575 Introduction to Bioinformatics & Computational Biology
HUMGEN 541 Molecular Genetics
HUMGEN 551 Computational Genomics
HUMGEN 544 Basic Concepts in Population and Statistical Genetics

- To gain hands on experience in the analysis of microbial genomic data.
- To gain experience in interpreting microbial genomic data to inform public health action,

The past

We've historically missed the mark by thinking of Advanced Molecular Detection too narrowly.

With regard to workforce development

- Focus on highly visible gaps.

With regard to funding

- Scope, teams, and roles.