

Aims and Progress of the Training & Workforce development WG

Nicola Mulder, Duncan McCannell (co-chairs)

On behalf of the WG

TWD WG vision

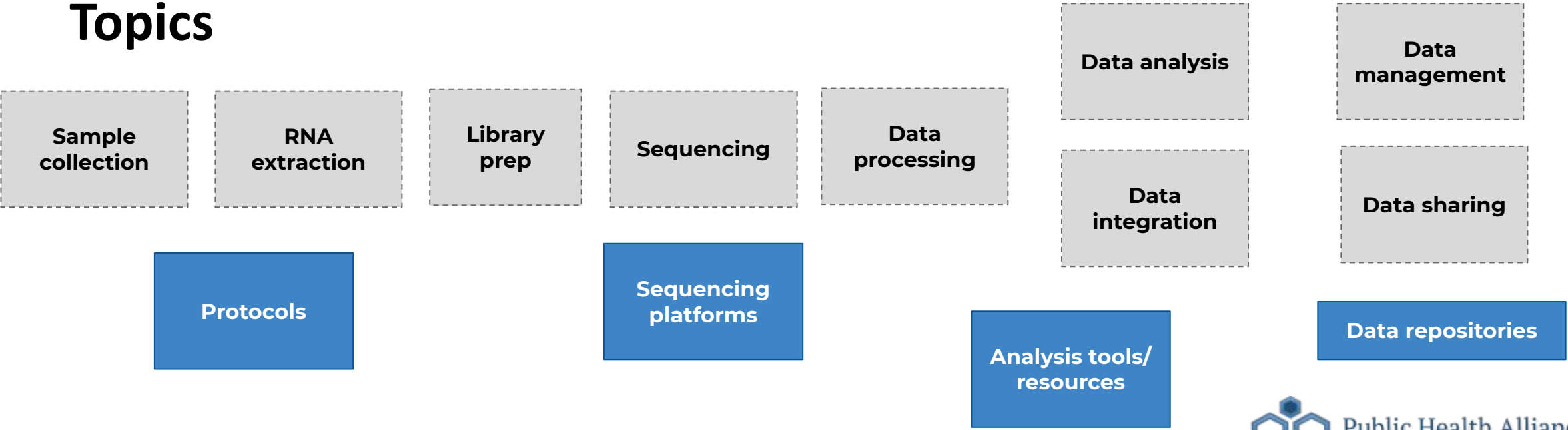
To develop training standards and resources that will help to create a workforce able to effectively implement pathogen surveillance and epidemiology.

- Need to design general and domain specific training on specific topic areas eg. bacterial, fungal, viral pathogens, vectors etc, and identify/tailor courses for different stakeholders.
- Need to train external stakeholders on the standards and outputs of the PHA4GE consortium

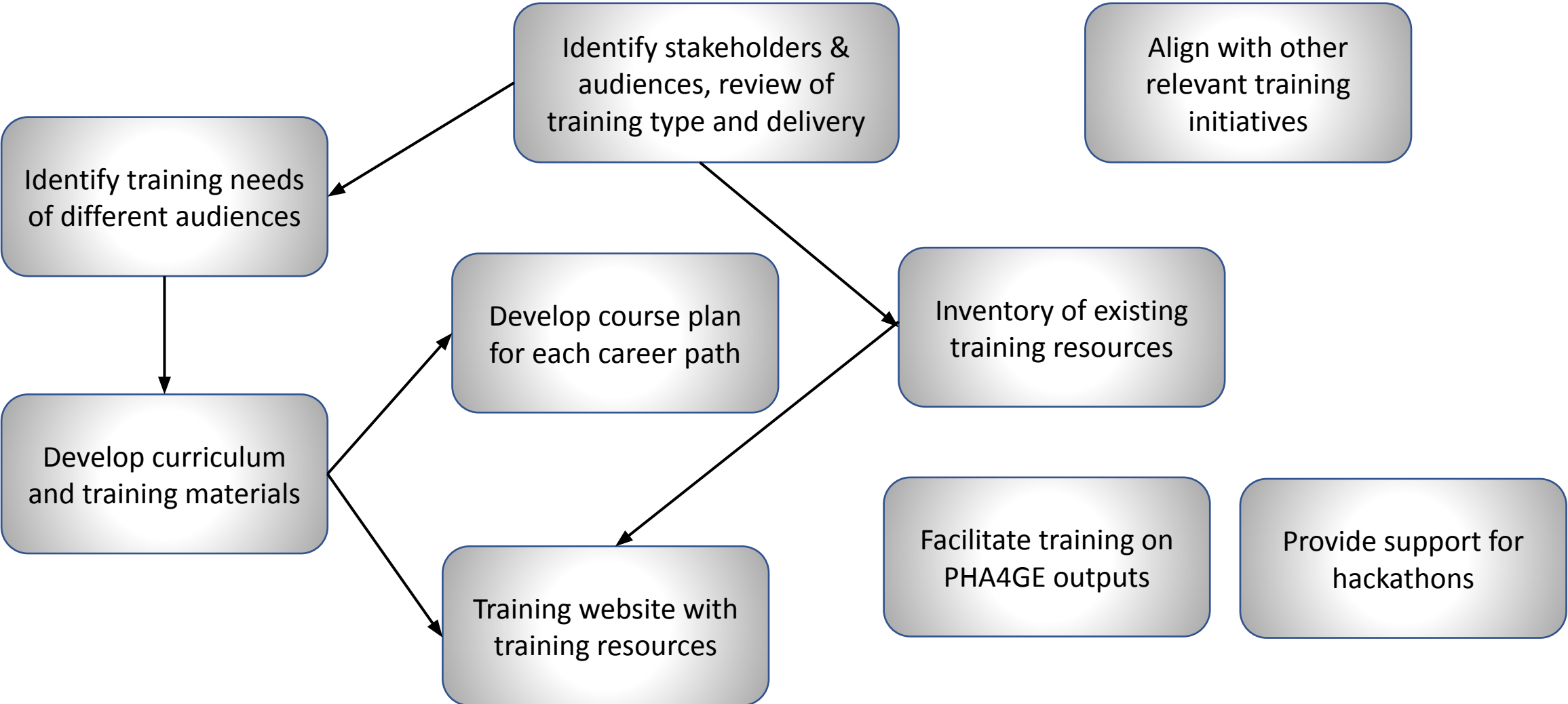
Training Audiences



Topics



Brainstorming session



Proposed activities

- Manage training content on the PHA4GE website
- Develop training resources for the PHA4GE community
- Collate information on existing training opportunities and materials
- Develop standards for pathogen training
- Support the other PHA4GE working groups with their training needs

Progress to date

- Updated PHA4GE TWD WG website
- Engagement with other PHA4GE working groups
- Defined training metadata to be collected
- Developed survey for those involved in pathogen genomics training

TWD WG website



Motivation and Mandate

There are several training activities required to upskill a workforce involved in pathogen surveillance and epidemiology. We need to design both general and more domain specific training on specific topic areas eg. bacterial, fungal, viral pathogens, vectors etc, and identify/tailor courses for different stakeholders. We also need to train external stakeholders on the standards and outputs of the PHA4GE consortium. Many pathogen training courses and programs exist which we can draw from in terms of materials and providing access. The WG will assess the current status of pathogen training as well as the training needs of different stakeholders. We will collate information and materials and develop recommendations on training for different audiences.

Focus Areas

To develop training standards and resources that will help to create a workforce able to effectively implement pathogen surveillance and epidemiology.

Projects

- Manage the training content on the PHA4GE website
- Develop training resources for the PHA4GE community
- Collate information on existing training opportunities and materials
- Develop standards for pathogen training
- Support the other PHA4GE working groups with their training needs

Chairs:

Dr Duncan MacCannell
(US CDC)

Prof Nicola Mulder
(University of Cape Town, South Africa)

Contact

Useful Links:

[GitHub](#)

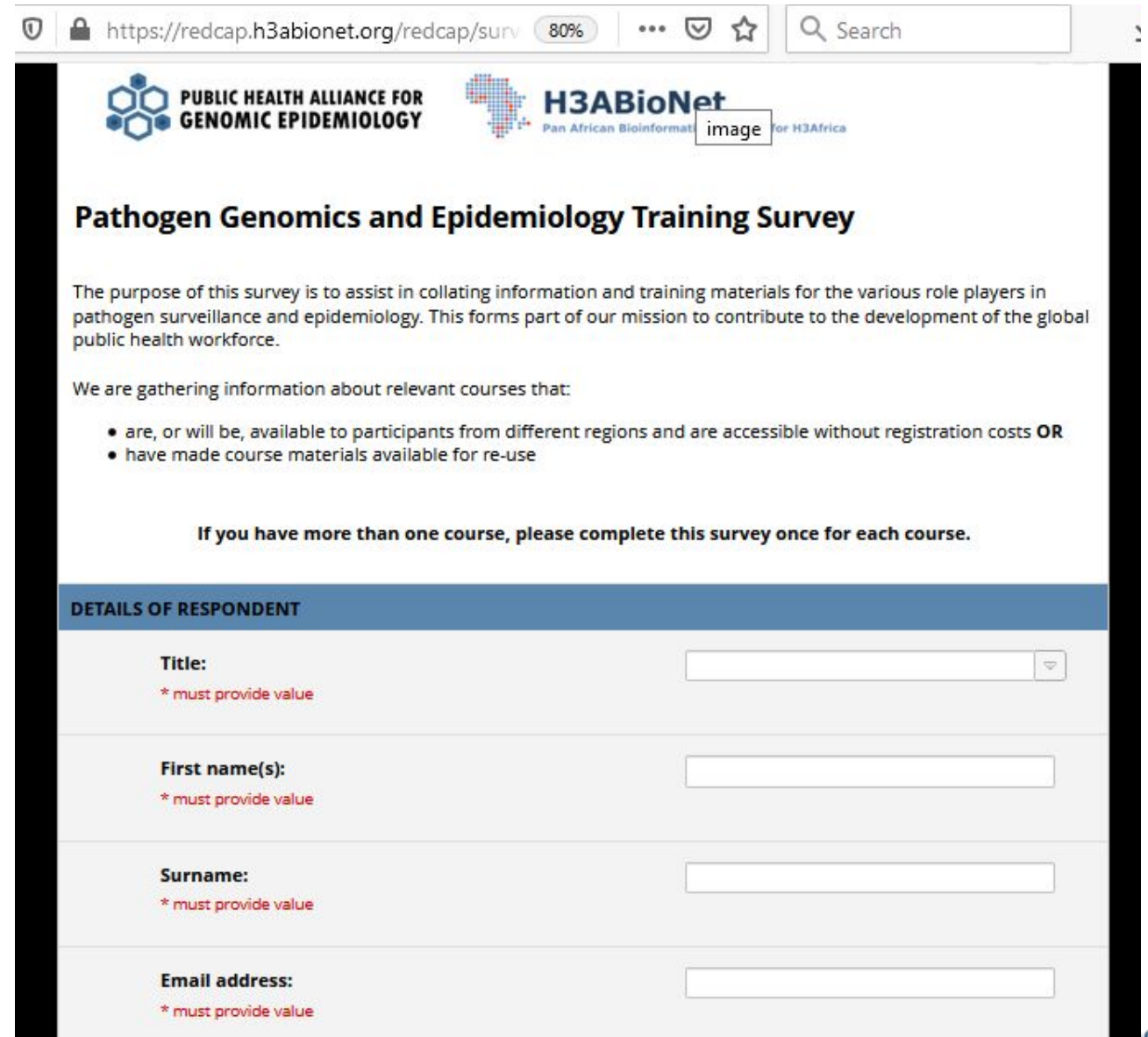
[PHA4GE Membership](#)

Engagement with other stakeholders



- PHAGE Ethics WG
 - Discussed how to incorporate ethics into proposed training courses
- PHA4GE Infrastructure WG
 - Need for Sys Admin training
 - Use H3ABioNet Sys Admin “How to” guides
- NGS Academy
 - Overlapping aims in landscaping analysis

Trainer survey

Organisation name
Course title
Region, time zone
Focus area
Main topic(s) covered (or link to course outline)
Level (introductory/ advanced, etc.)
Area (wet lab/ bioinformatics)
Fomat (Available at any time or presented live)
Target audience
Duration (and frequency, where applicable)
Course is open to/appropriate for participants in other regions
Course materials are available for re-use
Relevant links (hyperlinked)
Additional training courses required by the organisation (areas they may require training courses)



https://redcap.h3abionet.org/redcap/surv 80%

Pathogen Genomics and Epidemiology Training Survey

The purpose of this survey is to assist in collating information and training materials for the various role players in pathogen surveillance and epidemiology. This forms part of our mission to contribute to the development of the global public health workforce.

We are gathering information about relevant courses that:

- are, or will be, available to participants from different regions and are accessible without registration costs **OR**
- have made course materials available for re-use

If you have more than one course, please complete this survey once for each course.

DETAILS OF RESPONDENT

Title: * must provide value

First name(s): * must provide value

Surname: * must provide value

Email address: * must provide value

Collating information

Inventory of Training Courses ☆ 📄 🏠

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2			Organisation name	Course title	Intended Audience(s)	Relevant links (hyperlinked)	Last Updated
7	5		https://globalhealthtrainingcentre.tohn.org/elearning/				
8	6	Wellcome Genome Campus		Genomics and Clinical Virology	Clinicians	https://coursesandconferences.wellcomegenomecampus.org/our-events/genomics-clinical-virology-2021/	
9	7	Wellcome Genome Campus	Various (Pathogen genomics, Viral, Helminth Bioinformatics, Parasite Databases, Bacterial genomic epidemiology, AMR)		Various	https://coursesandconferences.wellcomegenomecampus.org/event-type/courses/	
10	8	CVR Glasgow		Various		https://bioinformatics.cvr.ac.uk/training/	
11	9	Edinburgh Genomics (UoE)		Various		https://genomics.ed.ac.uk/services/training	
12	10	Wellcome Genome Campus - Future Learn (WGC-FL)	Bacterial genomics - Bioinformatics, AMR, DNA to proteins, Genome visualisation		Biologists	https://www.futurelearn.com/partners/wellcome-genome-campus	
13	11	EMBL-European Bioinformatics institute (EBI)		Various		https://www.ebi.ac.uk/training/online/courses/a-journey-through-bioinformatics/	
14	12	FutureLearn	Bioinformatics for Biologists: An Introduction to Linux, Bash Scripting, and R		Biologists	https://www.futurelearn.com/courses/linux-for-bioinformatics	
15	13	Chan Zuckerberg Initiative			Epidemiologists	https://slides.com/sidneymbell/introduction-to-genomic-epidemiology	
16	14	CDC Office of Advanced Molecular Detection		Molecular Epidemiology for Epidemiologists	Epidemiologists		Jan 2020
17	15	Wellcome Genome Campus		Fungal Pathogen Genomics	Bioinformaticians	https://coursesandconferences.wellcomegenomecampus.org/our-events/fungal-pathogen-genomics-2021/	
					Biologists/		

+ ☰ **List of organisations** ▾ **Survey contacts** ▾ **Overview of courses** ▾ **Publicly available training resources** ▾ **Colour codes and abbreviations** ▾ **Schedule of** ◀ ▶

Making training FAIR

- Information about training events should be findable
- Where possible training materials, datasets, VMs should be available
 - Metadata about course should be comprehensive
 - Describe objectives, outcomes, audience, etc.
 - Put training materials somewhere that is findable and accessible, use and license information
- Map data to bioschemas
- Help to guide users to most suitable courses and content

Conclusions and next steps

- WG is still new, but done some engagement internally and externally
- Survey will provide into on existing training efforts
- Will need to identify gaps and work with stakeholders to fill them
- Develop/adopt standards for training in public health space
- Support training and dissemination of PHA4GE standards

Acknowledgements

- PHA4GE Secretariat
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- WG members:

Nicky	Mulder	South Africa
Duncan	MacCannell	USA
Mushal	Ali	South Africa
Sunando	Roy	UK
Rosaline	Macharia	Kenya
Paballo	Chauke	South Africa
Sidney	Bell	USA
Nancy	Chow	USA
Jared	Simpson	Canada
Will	Hsiao	Canada
Kevin	Libuit	USA

Heather	Blankenship	USA
Joel	Sevinsky	USA
Christian	Happi	Nigeria
Asif	Khan	USA
Christine	Boinett	United Kingdom
Tulio	de Oliviera	South Africa
Paul	Oluniyi	Nigeria
Idowu	Olawoye	Nigeria
Kirsty Lee	Garson	South Africa
Godwin	Essiaw-Quayson	Ghana
Olga	Francino	Spain
Noah	Hull	USA